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ABSTRACT

The U.S. Department of Education's Office of Educational Research and Improvement (OERI) sponsored a conference to identify key issues that could help OERI develop an agenda for research, products, and services in early adolescent education. This document compiles the papers from that conference. Following an introduction by OERI and a list of conference participants, the collection presents the five background papers: (1) "Early Adolescence: A Review of the Literature" (Tim Urdan and Steve Klein); (2) "Implications of Individual Difference Theories for Enhancing Adolescent Development" (Jodie Roth and Jeanne Brooks-Gunn); (3) "Middle Grades Curriculum, Instruction, and Assessment" (Nancy Ames and others); (4) "Increasing the Capacity and Will to Accelerate Middle Level Reform" (Susan Galletti); and (5) "Parent and Community Involvement in the Education of Young Adolescents" (Joan Schine). Authors addressed the same themes for their selected areas: (1) individual, institutional, and community factors; (2) the unique effect of contextual factors on various middle school reforms; (3) factor interaction; (4) possible directions for future research; and (5) practical applications of this research. Individual papers contain references. (DLH)

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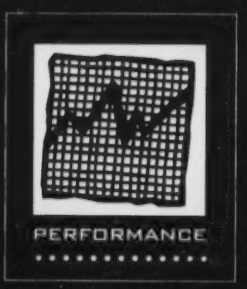

Collected Papers from the OERI Conference on Adolescence

Designing Developmentally Appropriate Middle Schools

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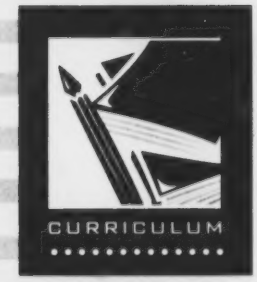

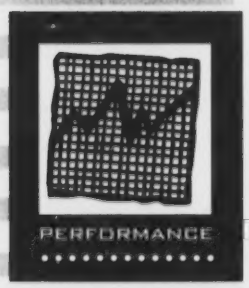

Collected Papers from the OERI Conference on Adolescence

Designing Developmentally Appropriate Middle Schools

Tim Urdan and Steve Klein

Jodie Roth and Jeanne Brooks-Gunn

Nancy Ames

Contributors: Barbara Berns, Glenn Kleiman, Carolee Matsumoto, Marguerite Roza, Faye Ruopp, Susan Smith, Joyce Malyn-Smith, Judy Zorfass

Susan Galletti

Joan Schine

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NATIONAL ASSOCIATION OF SECONDARY SCHOOL PRINCIPALS

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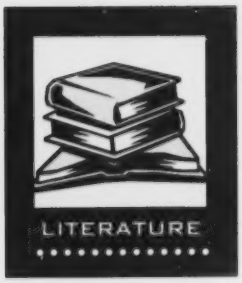


PREFACE

Early adolescence is a formative period during which youth explore a variety of personal and social issues. A great deal is presently known about the developmental changes that characterize early adolescence, and growing literature is highlighting the manner in which middle schools and communities can affect student outcomes. As the study of early adolescence has gained stature, research has moved slowly away from the examination of isolated processes toward a more encompassing view of the field.

The complex of issues associated with middle school education suggests the need for a new vision for research and practice—one that recognizes and integrates a more comprehensive understanding of early adolescent developmental processes. Until recently, most educators have largely ignored the dynamic interplay among people, resources, and contexts that contributes to student success. As interest in early adolescent research continues to grow, what is needed is a developmentally sensitive agenda that captures the changing environments and multiple associations operating within and between youth, schools, and communities.

Recognizing the need for new research and strategies in the field of early adolescent education, the U.S. Department of Education, Office of Educational Research and Improvement (OERI) sponsored in the Spring of 1998 a national conference on early adolescence. The goal of the conference was to identify key issues that could help OERI develop an agenda for research, products, and services in early adolescent education.

To help frame discussions, the OERI conference involved a diverse group of experts, including scholars, practitioners, foundation representatives, and OERI staff. To add structure to conference discussions, a literature review and four conference papers were commissioned to address a series of issues associated with early adolescent development, middle school curriculum and instruction, home and community environments, and overall school reform.

While these papers were intended to serve as a springboard for wider, far-ranging conversations during the course of the conference, it became clear that the papers themselves contained a wealth of information and new perspectives on the topic. To share the valuable insights contained in these papers, these papers are presented in this monograph.

About the Conference

The OERI Conference on Early Adolescence was held May 7–8, 1998 at the Charles Sumner School in Washington, D.C. Conference sessions were centered around four commissioned papers, each addressing a different, broad substantive area in early adolescent research: individual and group differences, parent and community involvement, curricular and instructional practices, and middle school reform. Within each topic area, conference discussions were structured to offer participants a forum to comment. As an opening activity, authors provided a brief 10-minute summary

of the main points of their paper and an explanation of the reasons—be they personal beliefs or established facts—which led them to select the specific direction of their paper.

To provide a context for conference discussions, selected conference participants were requested to serve as paper discussants. Panelists shared their impressions of the paper and helped lead a group discussion around the research implications raised in each paper. The purpose of this activity was not to critique the conference papers themselves, but rather to use the papers as a basis for identifying issues that could be pursued as OERI reconsiders its research agenda. Following the expert panelists, conference participants were invited to share their thoughts on the issues raised by authors and expert panelists, as well as to expand the discussion by bringing their own expertise to bear on the topic.

As a concluding activity, conference attendees brainstormed research topics and products that they considered essential to the study of early adolescence. Participants met in three small, facilitated breakout groups to assign priorities to suggested issues and recommend future directions for research that OERI might wish to pursue. Following the conference, MPR Associates reviewed and summarized group suggestions, and compiled recommendations contained within the four commissioned papers, to develop a final report.

About this Monograph

This monograph contains five background papers prepared for the OERI conference on early adolescence. Since the purpose of the background papers was to advance conference discussions beyond the existing literature and status quo arguments on the education of early adolescents, conference paper authors were selected not only for their recognized expertise, but also for the fresh perspective they would bring to the project.

To afford some measure of comparability across papers, authors were requested to address how differing individual, institutional, and community factors related to their selected area of interest and consider the implications of these associations for middle school education. In addition to exploring the unique effect of each contextual factor on various middle school reforms, authors were also asked to consider the ways that these factors interact with one another, and with a particular reform or set of reforms, to affect middle level education. Where possible, authors were also asked to consider possible directions for future research in their topic area and describe practical applications of this research.

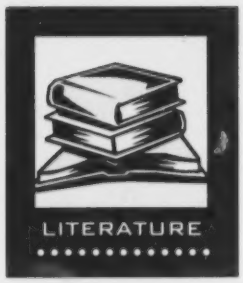
As the papers show, not all authors adopted a similar approach to the task. Some authors elected to tackle a large number of cross-cutting issues in their topic area, while others opted to concentrate on a small number of concerns that, they believed, had particularly important policy implications. Authors were asked to look across the entire literature, as well as capture their own experience in their papers. Given the scope of their undertaking, the authors were remarkably successful at capturing the essential issues that link education and early adolescence.

This monograph opens with an overview of the literature on early adolescent development in the physical, cognitive, social, and motivational domains. In it, conference authors Tim Urdan and Steven Klein (MPR Associates) examine the relationship between early adolescence development and educational policies and practices in middle level schools, paying particular attention to the fit between development and education. Where appropriate, they also raise questions regarding adolescent development and middle level schooling in each domain.

Papers commissioned for the conference follow the literature review. These four papers address broad topic areas that, taken in their entirety, span much of the early adolescent field. Beginning with the "Implications of Individual Difference Theories for Enhancing Adolescent Development," Jodie Roth and Jeanne Brooks-Gunn (Columbia University) profile developmental theories to motivate a discussion of how youth programs can be structured to improve adolescents' lives. Joan Schine (consultant) expands this focus in her paper, "Parent and Community Involvement in the Education of Young Adolescents." Focusing on the importance of building partnerships to support education, Schine examines alternative constructs for structuring parent and community involvement in schools and describes the barriers to successful collaborations.

To assess the affect of institutional factors on student learning, Nancy Ames (Education Development Center) examines "Middle Grades Curriculum, Instruction, and Assessment." Exploring the types of instructional programs that are most likely to produce increased learning and achievement at the middle level, Ames organizes her paper around six key questions or challenges facing middle level educators today. Finally, in her paper "Increasing the Capacity and Will to Accelerate Middle Level Reform," Susan Galletti (National Association of Secondary School Principals) puts forward an argument in support of small middle level schools serving as agents for change.

We believe the papers that follow provide some insight into the challenges that middle level educators face in offering high quality middle grades education. A fundamental principle underlying these papers is that there must be a better fit between the developmental levels of early adolescent students and the programs, curriculum, and instructional practices implemented in middle level schools. Understanding the programs and practices that work best, while continuing to develop an understanding of development during early adolescence in all its complexity, will enhance efforts to create better schools for all early adolescent students.



INTRODUCTION

Introduction

At the request of the Office of Educational Research and Improvement (OERI), in the Spring of 1998 MPR Associates convened a diverse group of experts—including scholars, practitioners, foundation representatives, and OERI staff—to participate in a forum on early adolescence. This period of development, distinct from late childhood and later adolescence and adulthood, is characterized by rapid changes in youth that can effect their subsequent academic growth and personal development. The purpose of this gathering was to bring fresh perspectives to bear on early adolescent research at OERI and on the dissemination of information about trends in early adolescent education. The goal of the conference was not to secure consensus around a single agenda, but rather to suggest areas that could be usefully explored under OERI leadership.

Participants in this conference suggested a number of issues that OERI might consider in establishing a presence in the field of early adolescent education. An important emphasis was that OERI incorporate new methodological approaches and research tools when structuring its research agenda. Participants hoped that OERI could facilitate a dialogue to extend educators' understanding of early adolescence and its implications for schooling and integrate different domains of knowledge to support a more encompassing, action-oriented philosophy of federal involvement. In particular, participants called for OERI to facilitate the transfer of research into practice by creating and disseminating products and instructional materials with direct application in the field and, when doing so, to recognize individual and group differences and variability across school and community environments.

While many of the recommendations raised by conference participants can apply to elementary and secondary education, these issues have specific implications for early adolescence. What sets middle level education apart is the unique changes that young adolescents experience as they enter and progress through puberty. A central goal of this paper is to identify a role for OERI that enables the agency to structure a research agenda that addresses the particular developmental challenges of early adolescence, while fostering academic excellence, recognizing student diversity, and promoting social equity among this diverse group of youth.

This briefing paper draws on conference discussions that suggest new directions in formulating research, development, and dissemination agendas in early adolescence. The paper identifies general themes that emerged during the course of the conference and, where identified, priorities for research or products within each theme. The paper closes with a summary of issues that OERI may consider when framing future initiatives.

▶ About the Conference

To structure conference discussions, MPR Associates commissioned four background papers, each addressing a different, broad substantive area in early adolescent research. These papers served as a starting point for a wider, free-ranging conversation about new directions for OERI-sponsored research and products to support middle school educators. A list of conference participants and conference paper authors is appended.

Conference sessions were centered around these commissioned papers, with discussions designed to offer participants a progressively more open forum to comment on various issues. Following a brief 10-minute introduction by paper authors, a group of expert panelists offered their impression of the papers as a means of sparking conference dialogue. Conference attendees were invited to share their thoughts on the issues raised by authors and expert panelists, as well as to expand the discussion by bringing their own expertise to bear on the topic.

As a concluding activity, conference attendees brainstormed research topics and products that they considered essential to the study of early adolescence. Participants met in three small, facilitated breakout groups to assign priorities to suggest issues and recommend future directions for research that OERI might wish to pursue. Following the conference, MPR Associates reviewed and summarized group suggestions, and compiled recommendations contained within the four commissioned papers, to develop this report. As a final activity, copies of a draft paper were circulated to a subset of conference participants; feedback from respondents is incorporated in this text.

▶ Conference Findings

Participants identified a number of ways in which OERI might contribute to the field of early adolescent education. In some cases, participants also described products or strategies that OERI might adopt to disseminate information to the field. This section describes mechanisms for structuring OERI involvement in the field of early adolescent education, identifies substantive areas that would benefit from OERI involvement, and reviews considerations that OERI might wish to consider in marketing information to a wider audience.

OERI should provide leadership to the field in developing and disseminating knowledge and tools to support early adolescent education.

Owing to its broad national perspective and extensive organizational resources, OERI can lend a level of leadership and coordination to the study of early adolescent education that substantially differs from that provided by other public, private, and nonprofit groups. A large number of initiatives sponsored by OERI and its Institutes gives the

agency access to diverse groups of educators, parents, and special interest groups who can assist the agency in putting knowledge and tools into practice.

At present, a great deal is known about the developmental changes that characterize early adolescence, and a growing literature addresses the manner in which traditional school organizations affect students' educational outcomes. Much of the knowledge comes from a small nucleus of independent researchers working across a number of cognitive, social, and educational domains. To build support for OERI initiatives, it is imperative that the agency publicly acknowledge the important contributions that these experts have made, and continue to make, in early adolescent research. The agency should also seek to work in partnership with these experts when undertaking future research studies.

Collaborating with Existing Funders

With modest federal involvement, representatives from some of the larger non-profit foundations—including the Carnegie Corporation, the W.K. Kellogg Foundation, the Lilly Endowment, and the Edna McConell Clark Foundation—have provided considerable leadership and support in the field. These foundations have worked to identify unique substantive areas within which they specialize, allowing for a more efficient distribution of resources in support of projects with different areas of inquiry. Only a fraction of this foundation funding, however, is earmarked for educational research. Instead, foundations typically channel resources directly to practitioners to assist them in applying research-based, school reform strategies.

Due to OERI's considerable organizational resources and national presence, conference participants felt that the agency could invest in large-scale national research efforts beyond what existing institutional funders support. As part of this process, OERI may wish to consider how it can differentiate itself from these other institutions, either by concentrating resources on a particular area of study not currently supported or by seeking to take on a more encompassing research and development agenda that cuts across specific issues in early adolescence. In addition, participants urged OERI to support the dissemination and application of existing research and theoretical knowledge in the field.

Regardless of its type of involvement, OERI should seek to coordinate its efforts with the major funders currently recognized in the field, and to do so both as it prepares to adopt a research and development agenda, as well as once agency goals are identified. While networking with key stakeholders prior to formalizing a research agenda could assist OERI in identifying potential areas for government involvement, networking can also support buy-in, increasing the likelihood that OERI can secure widespread involvement. Given the capacity and experience of current institutional funders, OERI should make every effort to connect with those already heavily engaged in the field to identify and

occupy a unique niche that will legitimate its continued involvement.

Networking with Recognized Experts

A number of highly influential researchers have been working independently and through professional associations to study the implications of early adolescent development on education. Much of this work tends to occur within discrete fields of inquiry that mirror the background and expertise that researchers bring to their task. To help focus federal involvement, OERI may wish to enlist the support of recognized experts, from a variety of academic, cognitive, and social domains, in an advisory capacity to assist the agency in identifying and maintaining an interdisciplinary research agenda that addresses current and evolving issues in the field.

One means of supporting such efforts might be to sponsor periodic forums, modeled after the Early Adolescence conference, bringing together a variety of recognized experts from different areas to explore specific topics from a number of different perspectives. For example, OERI might convene influential educators, doctors, psychiatrists, ethnographers, and sociologists to discuss the implications of individual and group differences for organizing schools. Outcomes from these meetings could include briefing papers that provide recommendations for future OERI work, or working groups that assist OERI in moving from research to practical applications at the middle school level. Another possibility would be for OERI to convene a panel of experts specifically to provide feedback that can help inform OERI products and services.

Disseminating Knowledge to the Field

During the course of the conference, participants noted that while there is much about early adolescence that has yet to be understood, a tremendous amount of information has already become clear. Too often, this information is overlooked by practitioners either because it is disseminated in a way that does not attract significant attention, or because it is written in a way that deters educators from using it.

In most cases, OERI would need to expend little effort to make existing information on early adolescence available to a wider audience. For example, a conference participant from the National Board for Professional Teaching Standards noted that her organization currently has a substantial amount of exemplary instructional material and portfolios developed by teachers seeking Board credentialing. Here the constraint is not that the knowledge and tools do not exist, but rather that the Board has no effective way of circulating them among practitioners.

While professional journals are one vehicle used by researchers to report findings, OERI may wish to explore opening new, more readily accessible channels for sharing information. This may involve tapping into existing OERI practitioner networks to

disseminate materials, establishing a clearinghouse on early adolescence, or harnessing the Internet and related technologies. Ideally, OERI could concentrate its efforts on establishing a framework for disseminating exemplary research and instructional practices and rely on the field to identify and contribute the substantive knowledge that should be shared.

OERI should encourage a fresh methodological perspective and new research tools to frame research on early adolescent education.

Conference participants cautioned against OERI's entering the study of early adolescence simply to support or extend traditional research methodologies. During conference breakout sessions, a number of experts voiced the belief that the study of early adolescence could benefit from the application of new empirical research strategies that sought to reconcile the effect of individual differences and school, home, and community contexts on educational practices and outcomes. Specifically, experts argued for the adoption of a more encompassing research perspective that accounted for factors that enable some schools to achieve exemplary outcomes.

Conference experts suggested that the traditional model of educational research—linking outcomes to a specific educational factor, such as tracking, while controlling for demographic and other variables—often fails to capture the dynamic interplay among people, resources, and contexts that contributes to student success. They suggested that a more ecological approach, one that examined the interrelationship of schools and their environments, might offer greater insight into why some schools are particularly effective in motivating students to perform at high levels. Three possible directions for OERI involvement were proposed.

Examining the Environmental Contexts of Early Adolescent Education

Experts felt that OERI could play a role in coordinating and supporting a new research agenda that emphasized systemic change and the elements that support it. While participants were generally interested in disentangling the variables that contribute to change at successful schools, a number stressed the importance of clarifying the interaction of institutional practices and resources with individual behaviors. Specifically, is there something about the way that certain schools are administered or run that lead them to effectively engage teachers and community participants in preparing young adolescents for school and life success?

One participant captured the groups' sentiment particularly well in suggesting the need for "... a developmentally sensible agenda for the study of early adolescence," one that captures the changing environments and multiple contexts that operate within and between youth and schools. To illustrate this alternative conception, she proposed that researchers needed to break with abstract psychological models of peer relationships to

incorporate a more holistic perspective, one that embeds peer relationships within school, family, and community contexts. More generally, she recommended that OERI seek to sponsor studies that would elaborate connections between students' personal behavior and social institutions, in order to provide a more detailed, encompassing picture of schools and the environments in which they function.

Several participants suggested that OERI might begin by identifying high performing districts and schools throughout the nation and documenting the strategies and practices—administrative as well as instructional—that make these sites exemplary. Study objectives could focus on a number of areas, including:

- Identifying internal and external environmental factors (e.g., school configurations, school culture, family and community involvement), and the interactions among them that contribute to the successful implementation of school reform
- Documenting the experiences of sites engaged in whole school reform to clarify the challenges that can arise when institutions attempt to replicate successful research strategies in different settings
- Studying the evolution of change in schools that start out underachieving and subsequently develop programs that accelerate learning gains, or reverse or slow negative trends
- Summarizing the contexts in which reform occurs, challenges faced, and strategies adopted in low-performing districts or schools that, over time, come to offer exemplary educational programs.

Defining what is meant by a high achieving school can complicate the best practices. There is no single criterion for judging effective educational practice: successful schools may be defined in terms of academics and workforce preparation, as well as a host of social and behavioral outcomes. Moreover, conference participants were not in agreement as to whether OERI should focus on schools that are uniformly high-achieving across a range of factors, or on those excelling on a specific subset of variables. Based on MPR's own experience, one possible approach may be to adopt the model used by OERI in its "New American High Schools" study to focus efforts on identifying the contexts, practices, and demonstrable outcomes of exemplary middle schools throughout the country.

Supporting Applied Research

Political circumstances can short-circuit reform in schools, often because positive outcomes are not evident until well after a reform has been implemented. In fact, short-term results of reforms are often negligible or even negative, as educators, parents, and students struggle to adapt to new school procedures. Those suspicious of change often

use these negative outcomes to leverage the removal of risk-takers, which can provide a disincentive for educators to attempt reforms in the first place.

To promote the application of best practices, conference experts suggested that OERI might take a more active role in supporting middle-grades educators seeking to implement comprehensive reforms. Specifically, conferees called for OERI to adopt an action-oriented research framework that assisted educators interested in initiating change. By focusing OERI resources and technical assistance on a small number of sites, OERI could develop models and identify strategies and practices that promote meaningful middle school reform. Suggestions made at the conference included:

- Creating a small number of demonstration sites and targeting funding and reform assistance on these sites to help educators engage in whole school reform. For example, OERI might support the application of existing knowledge and research in middle schools with high poverty levels and diverse student enrollments that are currently low-achieving
- Designing and testing developmentally sensitive curricula and instructional practices within particular academic domains that take into account the diverse learning needs and abilities of young adolescents
- Identifying a network of exemplary middle schools that can serve as models and resources for other sites interested in changing educational practices. Representative schools would be selected across a spectrum of school, student, and community demographic contexts to allow educators from different backgrounds to find an appropriate unit for comparison.

Developing New Research Tools

Conferees noted that relatively little is understood about the characteristics and participation of students, parents, teachers, and communities engaged in successful middle school reform. While it is likely that a large number of variables and complex set of interactions mediate individuals' involvement, understanding of the reform process is often constrained by a lack of sufficient data. A number of participants suggested that OERI could help clarify the mechanisms of middle level reform by sponsoring multi-site research studies that would provide longitudinal data on groups of young adolescents over time. In addition to supporting more detailed, statistical analyses of individual outcomes, longitudinal studies with multiple sites and participants would enable researchers to control for a variety of background characteristics that influence student outcomes. Conference experts also expressed a desire that OERI expand its use of qualitative research strategies (e.g., intensive case study methodologies), to facilitate the collection of more detailed data from individual schools. For example, case study data could be used to provide information on changes in the practices and beliefs of educators and parents, enabling researchers to assess the impact of educational policies on a range of middle

school and student outcomes. Similarly, exploratory ethnographic studies focused on the interrelationship of school and student contexts could provide information that would help document the mechanisms of risk and protective factors that may be specific to particular groups of early adolescents.

Put another way, conference experts were in favor of extending the traditional "units of analysis" to include more contextual, comprehensive, open-ended, descriptive data that would permit measurement of changes in the knowledge, skills, beliefs, and practices of those directly engaged in middle level reform. By changing the focus of data collection to include more extensive, large-scale research efforts, OERI could help recast the way in which early adolescence is studied and portrayed, as well as the ways in which related information is disseminated. As the following section illustrates, experts also identified a number of substantive areas within this contemporary research framework in which OERI could make significant contributions to the field.

OERI should support research studies into less explored substantive areas relevant to early adolescent education.

Although interest in early adolescent research continues to grow, conference authors and experts identified a number of substantive areas that toward which OERI could direct additional or more in-depth study. While in some instances participants were able to describe specific research topics that they believed warranted further consideration, time constraints bounded conference discussions. As such, the following list identifies broad study priorities and, where applicable, the specific research issues that conference authors and participants believed that OERI should promote.

Professional Development of Pre-Service and In-Service Teachers

A significant percentage of conference discussions focused on the need to prepare educators to address the unique cognitive, behavioral, and physical needs of early adolescents. As one conference participant noted, in the absence of a comprehensive professional development strategy to equip "...teachers with the knowledge, skills and disposition for classroom successes, nearly all the issues raised during the course of the conference would be useless because people do not have the skills they need to implement change." In general, conference experts agreed that the professional development of early adolescent teachers and educators has failed to receive sufficient attention.

Participants raised a number of research questions that they believed could help inform pre-service and in-service training programs, including:

- What are the characteristics of effective pre-service programs at the middle level?
- What types of in-service training are most effective in supporting teachers of young adolescents? In supporting administrators?

- What kinds of supports (e.g., mentorship, induction programs) do new teachers need at the middle level to enhance performance and reduce the high turnover in teachers during the first three years?
- What are the appropriate roles for teacher training institutions in middle grades reform?
- What are the knowledge, skills, and beliefs that teachers and principals need to have to engage parents and communities in high quality middle level education?
- How can schools attract and retain high quality teachers to settings with large concentrations of low-income and minority young adolescents?
- Are students in states with middle level certification more likely to have better academic outcomes and smoother social development than students in states without such certification?
- Within most district central offices and state departments of education, what is the current balance of resources and expertise assigned to middle level technical assistance and capacity building versus monitoring and accountability, and how do these expenditures compare over time?

Individual and Group Differences

During early adolescence, youth undergo a number of rapid physical, cognitive, and social transformations, with the rate and timing of these changes and the domains in which they occur varying across individuals and groups. The literature suggests that in addition to student abilities, demographic characteristics including sex, race, developmental level, socioeconomic status, home environment, and community context may mediate these changes. Consequently, early adolescent educators face a unique set of challenges in tailoring programs, curriculum, and instructional practices to meet a wide range of student abilities and needs.

During the course of the conference, a number of participants expressed concern that individual and group differences are often ignored in the course of school reforms that typically focus on pedagogical issues. This sentiment was captured particularly well by one participant, who noted that "...there are a thousand flavors of adolescents, and I fear losing flavors when we focus our programs on individual contexts to capture multiple trajectories." A central, recurring theme throughout the conference was the need for OERI to recognize individual and group differences and variability across school and community environments when structuring a research agenda.

To identify the effects of individual and group differences on learning, and in so doing address issues of educational equity, participants suggested that OERI might examine the fit between developmental levels of early adolescent students and the instructional programs and practices used in middle level schools. That is, which reforms foster and match the cognitive, motivational, social, and physical growth of early adolescents, and for which groups. Related research questions included:

- What is unique and important for educators to know about the relationships among early adolescent cognition, motivation, behavior, and learning ability?
- How can schools articulate with other key contexts in students' lives?
- What are the intervening stages of youth transitions that cause some students or groups of students to be at risk of school failure?
- What is the relationship between race and other demographic variables and risk factors?
- How do peer and adult relationships mediate students' progress through school?
- Why is it that some youth are able to succeed in school even when faced with overwhelmingly negative home and school environments (i.e., resiliency and protective factors)?
- What methods and approaches can help young adolescents form positive relationships with teachers and adults?

Curriculum and Instruction

Recent middle level reform efforts have focused on restructuring school organizations and classroom instructional practices around the developmental needs of youth. While most middle level schools have succeeded in creating safer, more nurturing learning environments, educators have been less successful in stimulating the intellectual capabilities of youth. One criticism of middle level education—which is supported by international tests showing American youth scoring at or below international averages—is that the curriculum and instruction used by teachers fail to challenge youth to use their minds.

One suggested opportunity for OERI was to focus on designing more developmentally appropriate instructional practices for motivating young adolescents to learn. As one participant asked, "...what is it that schools do to create the press for achievement among students and teachers, ...and what distinguishes schools where it's safe for all students to be smart [high achievers]?" Participants urged OERI to engage researchers in creating "...instructional and curricular nuts and bolts that have an impact on learning," and in the process of doing so, address a variety of educational issues (e.g., interdisciplinary vs. subject-specific curriculum and instruction; strategies for accommodating variability in individual learning styles).

While conference participants called on OERI to support the development of more demanding academic curricula and more effective instructional and assessment strategies, there was considerable debate over the use of standards and accountability provisions to benchmark students' school performance. In particular, one participant noted the disjuncture between "...standards, assessment, and accountability on one side driven by policymakers and... teachers taking what policymakers give them and trying to crunch them into their own sphere." Echoing the issues raised by Nancy Ames in her conference paper, "Middle-Grades Curriculum, Instruction, and Assessment," a number of participants

questioned whether state and national standards would accelerate the modern middle level movement or cause a retrenchment to the traditional junior high model.

In keeping with the overall conference theme, suggestions for OERI research focused on the need for a flexible, broad-based approach to the study of curriculum and instructional models. Using a roulette wheel as an analogy, one participant suggested that the OERI might seek to "...spread out its investment over a number of different topics, rather than placing all its chips on a single type of reform." Specific research questions raised by conferees included:

- How do different types of school configurations (e.g., grade span, large vs. small) and the contexts in which they occur support students in achieving at higher levels?
- What types of learning strategies foster the development of academic skills in young adolescents as well as an understanding and acceptance of other students and cultures?
- What is the impact of academic skill standards on early adolescent students of different socioeconomic strata, and what are implications of standards in the context of racial and class politics?
- What is the relationship of academic standards to youth development, and what are the implications of adopting standards to benchmark learning in young adolescents?
- Are there particularly effective classroom techniques and strategies that early adolescent teachers can generalize to a number of different content areas?
- How can teachers individualize instruction in order to avoid tracking students at the middle level?
- What are the factors that effect early adolescent literacy, and which types of curriculum and instructional strategies can be used to support early adolescent students who can't read?
- What are the most comprehensive and appropriate models of assessment for young adolescents?
- What are individual states doing to promote schools in which all students produce high quality work? How are these activities funded and supported at the middle level?

Parent and Community Involvement

School reform takes time and involves risk. Planning and implementing comprehensive reform often requires years of hard work before producing any measurable results, and even then, initial outcomes may be negative as individuals and organizations struggle to adapt to new policies and practices. Moreover, since reform is a process of trial and error, mistakes made early in the reform process are often identified and corrected only over

time, meaning that incremental changes and minor setbacks are unavoidable. Although reform requires patience and flexibility, parents and other members of the school community, who are more interested in the immediate education of their own children than long-term school change, often hesitate to tinker with status quo practices. As such, reformers must often overcome considerable public resistance that can place their efforts, and even their own jobs in jeopardy.

Implementing reform for young adolescents is particularly difficult because, as conference experts noted, the philosophy, configuration, and staffing of many middle-grades schools do not align with what is currently understood about early adolescent development. To alleviate what can be a formidable obstacle to school reform, conferees suggested that OERI develop a research agenda to identify techniques for motivating and sustaining parent and community involvement in early adolescent education. Proposals for further study included:

- What constitutes a culture of school achievement and how it is sustained?
- Why is it that educators have difficulty getting the public to support a meaningful middle school reform agenda, and how can OERI leverage support to change public perceptions?
- How do beliefs and priorities about the education of young adolescents overlap among teachers, parents, and policymakers? How do they differ?
- How do cultural and political forces shape the education of young adolescents, and is it possible to identify strategies of mutual adaptation that help us understand how schools and communities must change in order to work together to achieve a common end?
- What are the conditions or circumstances in which reforms are sustained through changes of school leadership, faculty staffing, and shifts in public opinion?
- What are the possibilities for promoting learning opportunities for young adolescents (e.g., service learning) within the community?
- What are the most effective, developmentally appropriate instructional and administrative methods to bridge the school/community/parent context for young adolescents?
- What are the critical components of successful parent-school partnerships for young adolescents?
- Are there stages of development in which effective school/community/parent partnerships for young adolescents evolve, and if so, what are they and by what mechanism do they occur?
- What motivates parents and community members to get involved in middle-grade schools?
- Can community-based organizations involved in youth development play a role in providing racially and socially integrated experiences in communities

in which middle level schools remain racially segregated? If so, under what circumstances?

Uses of Technology

Technological innovation is rapidly transforming the way we learn, work, and play. The rise of the Internet and exponential advances in computer memory, information storage, and processing speed have meant that computers have infiltrated nearly every aspect of society—computer literacy is no longer a luxury for today's youth; it is a necessity. As such, conference experts noted that OERI might wish to sponsor research studies into the potential uses of technology in the classroom and the implications of using computers to organize and provide instruction. Research questions raised by conference participants included:

- What are the most promising computing technologies (e.g., multimedia, distance learning) and the potential advantages and drawbacks to computer-assisted instruction for young adolescents?
- While much research has focused on using technology to support content instruction, little is known about how to use technology to build a developmentally sensitive agenda. How, and in what ways, can technology be used to address issues of student diversity and individuality at the middle level?
- What are the equity considerations that surround the use of new, often expensive technologies, and how do middle level schools serving low socioeconomic populations acquire materials and support students in learning?
- How can teachers of young adolescents learn to use new technologies to further their own professional development?
- What is the potential for using new technologies to bridge the traditional divide between schools, parents, and communities at the middle level?

End Note

Although topics broached during the course of the conference were framed in the context of early adolescent education, a review of the research recommendations raised by conferees reveals that many of the issues raised would apply equally well to students of all ages. In sponsoring a research agenda in the middle level, OERI may seek to ground studies in specific issues that relate to early adolescence. One means of doing so is outlined in the excellent article entitled *Speaking with One Voice: A Manifesto for Middle-Grades Reform* (Kappan, 1997), which proposes three questions that researchers should ask themselves when structuring early adolescent studies:

1) How does this strategy respond to the unique developmental challenges of early adolescence?

2) How does this strategy foster academic excellence?
3) How does this strategy contribute to social equity?

While these questions were primarily intended to help guide researchers in framing their study designs, they may also serve as a useful tool that OERI might use when considering its own middle level research agenda.

▶ Products and Tools

While there is a great deal more to be learned about early adolescence generally, researchers have documented a number of practices that can improve the education of young adolescents. Unfortunately, teachers and others in the field often fail to benefit from this research, in part because of the complicated language researchers use to communicate their findings, and in part because researchers rarely produce useful, off-the-shelf products that educators and parents can adopt for immediate application. The following section summarizes suggestions by conference experts on the role that OERI could play in developing products and materials that could be marketed to a wider audience as well as for rallying public awareness around the education of young adolescents.

OERI should translate existing knowledge and research findings into products that educators and parents can understand and use.

Much of the dialogue on early adolescent education and development currently takes place in professional journals or at conferences that provide limited access to those practicing in the field. Few schools budget for subscriptions to trade magazines or conference attendance for teachers, meaning that a great deal of potentially useful information goes unnoticed by those most likely to benefit from it. Furthermore, the manner in which educational information is traditionally reported can be confusing to those without extensive research experience. As experts noted during this conference, the use of excessive jargon (e.g., "developmentally-responsive" schools) or obscure statistical techniques too often blurs the transmission of simple information and concepts. Moreover, teacher training institutions often do little to prepare their students to interpret and apply educational research and policy.

Conference participants suggested OERI could make a contribution by translating existing research into products and curricular materials appropriate for classroom and home use. These products might take a variety of forms, ranging from booklets and short reports to computing software and videos. This effort would include forging a common, jargon-free language that educators could use to communicate with one another. The goal would be to produce information that would support teachers, parents, and community members in understanding the challenges associated with the education and development of young adolescents and the strategies that can be adopted to overcome them.

Suggestions for future work included:

- Producing specialized reports targeted toward specific audiences (e.g., parents, teachers, students) that provide information and resource referrals on particular early adolescent topics (e.g., cross-age tutoring, parenting skills)
- Developing a video series on effective classroom practices (e.g., cooperative learning, authentic assessment) that provide educators with instructional ideas and resources that work in different types of middle level schools
- Developing and disseminating middle level detracking models that address educational excellence issues related to racial, economic, and gender diversity
- Helping parents understand and support their children's development, and recognize the changes that they themselves may experience as their children traverse early adolescence
- Making use of emerging computing technology (e.g., CD-ROM, Internet, virtual reality) to allow parents and educators to "visit" schools and programs that are particularly successful in educating young adolescents
- Creating practitioner toolkits that contain pre-packaged classroom curricular materials that middle level teachers could adopt or adapt for immediate use in the classroom
- Sponsoring a demonstration network of middle level schools in high poverty communities that educate all students to high standards
- Designing staff development models that, building from the current knowledge in the field, would support middle level teachers in learning new skills
- Developing interdisciplinary, developmentally-sensitive, applied curricula that would engage early adolescent students in learning.

Given that middle level schools have varying capabilities to support reform, OERI may wish to tailor its activities to address the needs of multiple audiences. One conference participant suggested that educator *will* and *capacity* could play a crucial role in determining OERI's product focus. For example, OERI might initially seek to concentrate on supporting educators with high will to implement change, but lacking the requisite skills to accomplish their goals. Over time, progressively more intense interventions could be developed to assist educators lacking both the will and/or skill to make lasting change. OERI might also seek to develop a diagnostic tool to help school leaders identify the areas that their schools will need to address in order to change, and the skills their staff will need to negotiate the new challenges they face.

OERI should publicize and market information about early adolescence to increase public awareness and support for changes in middle level instruction.

Educators and researchers have recently focused a great deal of attention on the fit between the cognitive, motivational, social, and physical developmental levels of early adolescent students and the programs, curriculum, and instructional practices being implemented in middle level schools. While those in the research community are acutely aware of the need for middle level reform, there is currently little public support for restructuring middle level schools.

Conference experts suggested that OERI might take the lead in focusing national attention on the education of young adolescents. As part of its work, OERI could take responsibility for communicating to the public the critical aspects of early adolescence, publicizing the positive effects that carefully constructed middle level reforms can have, and building national capacity to support reform efforts in all middle level schools, particularly those serving poor and minority students. In this role, OERI would seek to develop products, sponsor studies, and provide public forums that would support a more informed national dialogue on the education of young adolescents.

Specific activities in which OERI might engage include:

- Collecting and disseminating eyewitness accounts of middle level reform, told in the words of the participants
- Developing and disseminating marketing tools and informational packets that communicate what is currently known about early adolescence, in formats that are responsive to parents, practitioners, and the community at large
- Working with representatives of states, professional associations, research institutions, and other leaders in middle level education to coordinate the dissemination of information about early adolescence.

Coordinating a national research and product dissemination agenda in early adolescence is a substantial undertaking, one that would require OERI to provide an unparalleled level of leadership and guidance to the field. Doing so would require that representatives within OERI's Research Institutes work together in a cooperative manner to pool resources and expertise to achieve a common goal.

▶ Summary

Conference participants looked to OERI to add structure to what is currently a fragmented area of study and to do so in a way that recognizes and supports the existing orientation of the field. With its extensive resource base and national perspective, OERI could offer an organizing framework for identifying, developing, and disseminating information and tools to improve the education and life preparation of early adolescents.

A central challenge that OERI will face is the need to provide leadership for field-driven

research. This will require coordinating with existing funders who currently exert considerable influence in the field, and collaborating with recognized experts and school practitioners to build a comprehensive national research agenda. Assuming a leadership role will also require that OERI devise a strategy to coordinate middle level research within the agency as a whole, in order to promote cross-disciplinary, cross-contextual work. This will require a high degree of intra-agency collaboration among OERI Institutes that transcends existing organizational "borders."

In supporting middle level research, OERI may consider adopting study criteria to ensure that proposed work addresses the unique developmental needs of young adolescents, fosters academic excellence, recognizes student diversity, and promotes social equity. To assist OERI in structuring a research agenda, conference participants identified a number of research themes for OERI consideration. One overriding concern was that OERI apply new methodological perspectives and research tools to assess the dynamic interplay among people, resources, and contexts that affect student learning. A number of participants also called for greater understanding of the implications of individual and group differences on middle level schooling and the development of effective strategies for helping students from diverse backgrounds achieve at high levels.

As a concluding activity, conference participants identified products and dissemination strategies to improve the education of young adolescents. The group called on OERI to translate existing knowledge and research findings into user-friendly products and curricular materials that parents and teachers could readily access for classroom and home use. To support educators seeking to implement whole-school reform, participants also urged OERI to aggressively publicize information about early adolescence to increase public awareness and support for changes in traditional middle level education.

U.S. Department of Education — Participant List

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Conference on Early Adolescence
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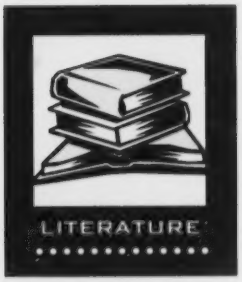

CHAPTER ONE

Early Adolescence: A Review of the Literature

Tim Urdan and Steve Klein

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▶ Overview

Early adolescence can be described as a period of life, typically occurring between the ages of 10 and 15 years, in which youth undergo rapid physical, cognitive, and social transformation. Since the turn of the century, and probably before that, early adolescence has been viewed as a period of tremendous upheaval, or "storm and stress," for children and virtually all who come into contact with them. The stereotypical image of young teens being trapped in changing, awkward bodies and caught in the swirl of their own "raging hormones" has been pervasive among psychologists, parents, and educators for decades. The difficulties associated with making the transition from childhood to early adolescence have historically been given much weight in research, and have also led many to view the qualities of control and patience as key for adults who are trying to interact with early adolescents.

Fortunately, over the last 25 years, a more nuanced view of early adolescent development has emerged. Recently, educators and researchers have begun to recognize early adolescence as a period of development that is unique and distinct from late childhood and later adolescence or adulthood. Rather than viewing early adolescence as one of unmitigated turmoil to be endured, researchers and educators have begun to view this stage of development as one of dramatic change that brings both multiple stressors and new possibilities for growth. The recognition that early adolescence is a unique period of development has led to changing beliefs about the nature of this developmental period, as well as appropriate methods for educating this age group. The middle school movement—which emphasized creating developmentally appropriate schools designed to ease the transition into adolescence while taking advantage of the new strengths (e.g., increased cognitive sophistication, greater maturity) produced by development—was born out of this new understanding. A wave of reform efforts that have occurred at the intermediate school level, fueled in part by *Turning Points*, the Carnegie Council on Adolescent Development's 1989 report, represents a continuation of this movement.

As recent research has begun to answer some of the questions regarding development during early adolescence and the institutions designed to serve these youth (i.e., schools, social welfare and health agencies), new questions have emerged. The purpose of this paper is to review some of the research on early adolescent development, particularly as it relates to schooling, and to generate some ideas for future research in this area. Rather than providing an exhaustive review of the literature on adolescent development, this paper provides a selective review that presents the major issues of early adolescent development. Particular attention will be paid to the relationship between middle level schooling and the physical, cognitive, social, and motivational changes that occur in early adolescence.

Structure of the Paper

Early adolescence is a formative period when youth explore a variety of personal and

social issues. Since decisions made during this interval can affect subsequent life and career outcomes, it is important that youth are given the proper support during this time. This paper explores the literature on early adolescence to identify key issues and challenges that youngsters and their parents confront during this difficult developmental period. A fundamental assumption underlying this work is that schools, and the manner in which they are organized and function, can have an important impact on students' academic growth and personal development. Accordingly, this paper focuses on relating characteristics and risk factors of young adolescents to the manner in which educational programs are structured and delivered.

This paper, which focuses on raising questions for future discussion regarding the interaction between development and schooling for early adolescent students, has three primary objectives. The first is to provide a representative overview of the literature on early adolescent development in the physical, cognitive, social, and motivational domains. Second, within each of these domains, the paper examines the relationship between early adolescence development and educational policies and practices in middle schools, paying particular attention to the quality of the fit between development and education. Third, the paper raises a set of questions regarding adolescent development and middle level schooling in each of the domains. The conclusion suggests a set of potential areas for future research at OERI.

▶ Cognitive Development

For many years, Piaget's theory dominated views of cognitive development in early adolescence (Inhelder and Piaget, 1958). According to this theory, sometime during early adolescence, children undergo a fundamental shift in the way they think and view the world that involves moving away from thinking in concrete terms to thinking in a more abstract, logical manner. Upon entering what he labeled the "formal operations stage," early adolescents, Piaget believed, developed the ability to think more scientifically, design and test multiple hypotheses, and manipulate objects, operations, and future outcomes in their minds without having to actually interact with physical objects. This view of cognitive development in early adolescence has played a major role in the sequencing of curriculum in schools (e.g., waiting until the middle grades to introduce abstract mathematical concepts, such as those taught in algebra).

More recent research has extended and altered the work of Piaget. Most notably, information processing theorists (Case, 1991; Siegler, 1991) have argued that rather than progressing through radical, discrete, and global stages, cognitive development occurs in gradual, accumulative steps, usually one domain at a time. For example, a student may have developed considerable quantitative skills by eighth grade, but her or his verbal skills may still be relatively low. According to this view of cognitive development, physical maturation and improved use of cognitive strategies combine to improve the efficiency

of cognitive processing. This improved efficiency, in turn, produces greater cognitive sophistication. Thus, the more individuals interact with information in a certain domain, and the degree to which they are trained to effectively use cognitive strategies in that domain, the more expert they will become in that domain.

In addition, constructivist theory has had a significant impact on current educational practice and understanding of cognitive development, (Linn and Songer, 1991). This view of development, which has several different theoretical underpinnings (e.g., Piaget, Vygotsky, Bandura's "social-learning," and information processing), posits that knowledge is constructed through interaction with information, material, and instruction. Accordingly, cognitive development occurs as individuals gain experience with concepts and information, and then develop strategies for organizing that information into mental structures, or schemas. Much of the debate among educators centers not on whether a constructivist view of cognitive development is accurate, but rather on which processes most directly aid in the construction of knowledge structures. Whereas Piaget argued that experience teamed with biological maturation created distinct stages through which cognitive structures develop (rendering direct instruction relatively ineffective), other theories (most notably Vygotsky's theory of social construction [1978]) provide teachers with the opportunity to assume a significantly larger role in cognitive development. Many current educational practices at all levels of schooling are based directly on constructivist theory—for example, reciprocal teaching for reading (Palincsar and Brown, 1986); expert-novice models of instruction (Bereiter and Scardamalia, 1993); and constructivist approaches to curriculum reform (Blumenfeld, 1992).

In addition to the major theories of cognitive development mentioned above, advances in biological and biochemical research in the area of brain research and the biological precursors of cognitive development have contributed significantly to our understanding of cognitive development. For example, recent brain studies have begun to clarify our understanding of gender differences in brain functioning that may partially explain different preferences for academic subjects, learning styles, and communication patterns among adolescent boys and girls (e.g., Milgram, 1992). Although it is unclear at present whether such gender differences are attributable to social or biological factors (see Parsons and Goff, 1980; Gilligan, 1982; Maccoby and Jacklin, 1974), biological research holds great promise for bolstering our understanding of cognitive development in early adolescence.

Combining the theory and research from these four perspectives (Piaget, information processing, constructivist, and biological), the current state of thinking about cognitive development during early adolescence is that it is a period usually marked by increases in a youngster's ability to think abstractly and hypothetically, at least in some domains. Changes brought about by physical maturation, experience, and socialization processes

allow early adolescents to envision not only what they will be like in the future, but also to develop strategic plans for either becoming this kind of person or not. In addition, early adolescents become more interested in "knowing for themselves" and less willing to accept the word of an authority figure (i.e., a teacher or a parent). Generally, they also become more willing and able to explore issues of interest for themselves in a systematic manner. As early adolescents develop a more refined sense of who they are, including increased sensitivity to gender-appropriate behavior and racial-ethnic identity, their interests become more focused. This often leads to their selecting certain areas in which they will invest their time and mental energy while ignoring other areas. In this sense, early adolescents become more specialized in their interests and, as a result, in their expertise (or cognitive development).

Cognitive Development and Schooling

There is a disjunction between the teaching methods and materials found in many middle schools and the cognitive developmental advances that occur during early adolescence. Typically, middle schools are organized more like high schools than elementary schools; that is, middle schools typically have a number of periods, usually about an hour long, in which students study different academic subjects. Moreover, in middle schools, time is structured inflexibly; for instance, when the bell rings at the end of the period, students move on to their next class whether they have finished what they are currently working on or not. Also, because individual subjects are taught by different teachers, issues raised in science class, for example, are rarely, if ever, discussed in math class. In the first year of middle school, there is some evidence that work is less cognitively demanding than the work students did in the last year of elementary school (Rounds and Osaki, 1982). In addition, instruction tends to focus on basic skills, taught in whole-class, lecture format, and drill-and-practice style (Becker, 1990; Eccles and Midgley, 1989). Finally, although students can take more electives in middle school than in elementary school (Becker, 1990), the opportunities students have for decision making in the classroom appear to decline after they move on to middle school, because students are offered fewer such opportunities in their middle school classrooms than in elementary classrooms (Midgley and Feldlaufer, 1987).

Considering that early adolescents are developing their reasoning abilities, the system of schooling in which they enter appears to be particularly ill suited to their needs (Eccles and Midgley, 1989). As early adolescents become increasing able and desirous of opportunities to make mental connections among the various topics they learn about in school, the curriculum becomes more fragmented. As they develop the ability to engage in longer, more involved projects, hypothesis testing, and experimentation, the school day is divided up into short periods that inhibit such lengthy explorations. As they seek to take more responsibility for their schooling through choosing what to work on, where to sit, and how to demonstrate their knowledge, they are more likely to be denied these opportunities. And

as they develop increased capabilities for sustained, self-directed learning, they are more often placed in classrooms where a whole-class, lecture format is the norm.

Although there is often a developmental mismatch between early adolescents and the schools that serve them, educators and researchers have begun to recognize this disparity and are taking steps to correct it. One area where schools appear to be incorporating cognitive developmental research involves efforts to integrate constructivist theory into curriculum and instructional methods. At all levels of schooling, including middle schools, it is evident that attempts are under way to make learning activities more experiential. In the domain of mathematics, for example, teachers are increasingly using manipulatives. In addition, in some schools, the daily schedule has been changed from discreet, short periods to more flexible blocks of time; these multi-hour blocks allow teachers to spend more time working on a given task than would be possible with 50-minute periods. The longer periods allow both teachers and students the possibility of engaging in more complex, authentic tasks, such as science experiments or field-based learning trips, than would have been feasible under the old schedule of 50-minute periods. These longer, more experiential tasks dovetail well with current theories of the ways in which students process information and develop more elaborated cognitive structures.

Another practice that has been recommended and, in some schools, implemented is interdisciplinary instruction. This method of creating links between the various academic subjects is believed to have many benefits for teachers and students, including helping students to realize the interrelatedness of the core academic disciplines (Mac Iver and Epstein, 1990). By coordinating instruction across disciplines, schools are better able to take advantage of early adolescents' increasing ability to understand the connections among the various subjects they study in school.

Questions for Consideration

Although attempts to combine knowledge about early adolescent cognitive development with educational practices have already begun, there are many questions that still remain. The first, and perhaps most pressing issue, involves curriculum. It is understood that as students develop into and through early adolescence, their cognitive sophistication generally grows. This increasing sophistication allows early adolescents to think more abstractly, reason more systematically, and remain engaged in subjects of interest for extended periods of time. Constructivist theory and research has demonstrated the benefits of having the learner become actively engaged in constructing knowledge, or coconstructing it with peers or teachers. What is less clear is (1) the extent to which constructivist principles are being applied in middle level schools; (2) how these practices, to the extent that they have been implemented, have affected academic achievement; and (3) which modes of delivery are best able to tap into and facilitate the cognitive development experienced in early adolescence. For example, what mixture of

direct instruction and cooperative group work is most effective for students at this level of development? What are effective strategies for ensuring that students at various points in their cognitive development who are in the same classroom are all doing work that matches their capabilities? What role should textbooks play in instruction, and how should they be organized to take advantage of the unique developmental characteristics of early adolescents? Finally, what role should computers play in delivering instruction, and what are characteristics of effective computer programs for this age group?

A second, related issue to curricular reform involves the structural features of middle schools. Although advocates of middle school reform have long promoted certain strategies designed to take advantage of development during early adolescence (e.g., interdisciplinary teaming, block scheduling), many middle level schools fail to implement these programs (Mac Iver and Epstein, 1990). Why is this so? In other words, what are the structural and philosophical impediments to change at the middle school level? Urdan, Midgley, and Wood (1995) have identified a number of possible impediments to middle school reform, including (1) teachers' and administrators' perceptions of early adolescence as a time of such strong physical and emotional changes that teaching and learning are impossible; (2) teacher certification programs that offer no specific training for working with early adolescents; (3) large, bureaucratic schools with unwieldy, inflexible schedules; and (4) state-level mandates that emphasize testing of discrete pieces of information rather than integrative and critical thinking skills. To create middle level schools that are developmentally appropriate for early adolescent students, it is necessary to develop a better understanding of the factors, including the attitudes and beliefs of educators and parents, policies at the building, district, and state levels, and school structures that impede middle school reform.

Perhaps the most effective method of creating curriculum, policies, and practices that suit the cognitive developments of early adolescence is to identify specific school- and classroom-level practices that are effective in helping these students learn. For example, does the grouping of students by ability, either within the classroom or between classrooms, help early adolescent students learn? Is a diverse curriculum that allows students some latitude to choose which classes they take more or less effective than a more narrow curriculum? Does interdisciplinary teaming produce greater learning gains for students than subjects taught in isolation from each other? Perhaps most importantly considering the wide variety of cognitive developmental levels among early adolescent students, what specific instructional practices are best for handling the diversity?

▶ Developmental Shifts in Motivation

Research has consistently shown that early adolescence is a period marked by negative changes on a variety of motivational indices. For example, Harter (1981) found that intrinsic motivation for academic work generally decreased as students moved into

adolescence. Other studies have shown similar declines across a variety of constructs, including interest in school (Epstein and McPartland, 1976); self-concept and self-esteem, especially for girls (American Association of University Women, 1992; Eccles et al., 1983; Marsh, 1989; Simmons and Blyth, 1987); and perceived competence (Parsons and Ruble, 1977). In addition, there is evidence that students experience an increase in such debilitating motivational cognitions as test anxiety (Hill, 1980) and learned helpless responses to failure (Rholes, Blackwell, Jordan, and Walters, 1980). Behavioral indications of motivation also decrease as students move into middle level schools, including lower grades (Simmons and Blyth, 1987) and the beginning of a performance slide that predicts dropping out of school for some students (Roderick, 1992). For reviews of these motivational and performance shifts in early adolescence, see Eccles and Midgley (1989) and Midgley (1993).

The putative causes for these negative motivational and behavioral changes in early adolescence have been debated and examined for decades. In accord with the earlier view of adolescence as a time of storm and stress produced primarily by physiological changes associated with puberty, students' declining interest and performance in school were associated with biological changes (Simmons and Blyth, 1987). Indeed, those who work directly with early adolescent students daily often continue to attribute motivational problems to biological causes (Midgley, 1993; Urdan et al., 1995). Although physical changes undoubtedly present challenges to many early adolescent students, research suggests that other factors, including cognitive development, the learning environment in classrooms and schools, and socialization processes contribute to changes in these students' motivation.

The increasing cognitive sophistication that accompanies the move into early adolescence brings with it the ability to engage more readily in social comparison. Whereas younger children tend to define academic ability in terms of effort expenditure (i.e., the harder you try, the smarter you are), older children and early adolescents define ability in more relative terms (Nicholls, 1990). To view one's ability in relation to others, and to view ability and effort as inversely related (i.e., the harder you have to try, the less able you must be), one must have achieved a level of cognitive development that generally does not arrive until late childhood or early adolescence.

As a result of the increased capacity for social comparison, early adolescent students can, and often do, experience a reorganization of self-perceptions. Early adolescents are intensely aware of how they compare with their peers, and this focus on relative ability is both a source of important information about one's abilities as well as a source of debilitating information about one's weaknesses. When students believe that they are less able than others, they often lack confidence in their abilities, leading to a variety of behaviors that can negatively affect their academic performance. For example, students

may take steps to protect their image, and others' perceptions of their cognitive abilities. One of these steps is to withdraw from school and to redefine one's self-concept and identity in nonacademic terms. There is evidence that as students move into middle level schools, their self-concepts become increasingly differentiated, and non-academic self-concepts become more important (Wigfield, Eccles, Mac Iver, Reuman, and Midgley, 1991). This increasing focus on nonacademic interests may partially explain why students experience a decline in intrinsic motivation for school work as they move through school (Harter, 1981).

Another consequence of early adolescents' tendencies—in terms of relative ability—is that they are more likely to develop an "ability goal orientation" in middle school than in elementary school. Research conducted using an achievement goal theory framework has focused on the antecedents and consequences of perceiving different purposes for doing academic work (e.g., Ames, 1992; Dweck and Leggett, 1988; Nicholls, 1984; Maehr, 1984). One type of purpose, or goal, is referred to as a "task goal" (it has also been called a "mastery goal" or a "learning goal"). When task goal oriented, students perceive that the purpose of academic work is to develop and improve skills, learn for the sake of learning, or to gain new insights into a topic. Success on a task is defined in self-referent terms. A second type of goal that has been studied is referred to as an "ability goal" (also called a "performance goal" or "ego goal"). When ability goal oriented, students are more concerned with demonstrating their ability relative to others. The purpose of academic work, then, is to show how much smarter one is relative to others, or to avoid looking less able than others. When ability goal oriented, success is defined in other-referent terms. A large and growing body of research has demonstrated that having a task goal orientation is associated with a more favorable pattern of motivational and behavioral outcomes than is having an ability goal orientation (e.g., more positive feelings about school, greater confidence in one's abilities, deeper levels of cognitive processing, greater persistence in the face of failure or difficulty, less negative reactions to failure, continuing motivation, high achievement, and so on).

When young, children tend to view academic ability as a malleable characteristic that can be increased through effort. As children grow older and develop cognitively, however, they become able to view effort and ability as separate, usually as inversely related constructs (Dweck, 1992; Nicholls, 1990). By early adolescence, virtually all students are sophisticated enough to hold this view of the relationship between effort and ability. Dweck and her colleagues have argued that when students view ability as malleable, they are more likely to adopt task goals. However, when effort and ability are believed to be inversely related, ability is more likely to be seen as a stable, fixed entity. By early adolescence, middle school students are more likely than younger students to view ability as fixed and, therefore, are more likely to adopt a relative ability goal orientation. Research has, in fact, shown that middle school students are more likely to adopt an

ability goal orientation than are elementary students (Anderman and Midgley, in press).

Research conducted with adolescents and adults has revealed important differences between students of different cultures, racial-ethnic backgrounds, and social classes in their motivational orientations (Cooper and Tom, 1984; Steinberg, Dornbusch, and Brown, 1992). Both Ogbu (1992) and Fordham and Ogbu (1986) have argued that black students devalue academic achievement because they view it as primarily a feature of white culture in America. Moreover, Phelan, Davidson, and Cao (1991) found, among a sample of high school students, that the degree to which students viewed their home, peer, and school cultures as incompatible was related to their motivation and performance in school. Others have argued that people from different cultures often have different definitions of self (e.g., interdependent versus independent and allocentric versus idiocentric), and these differences were related to differences in motivation. Midgley, Arunkumar, and Urdan (1996), using a sample of eighth graders, found that students' achievement goals were related to their use of self-handicapping strategies in different ways for black and white students.

Overall, the research indicates that motivational trends in early adolescence are not ideal. Although most students suffer only minor declines in motivation or performance upon entering middle level schools, and these declines often disappear after the first year of attendance, the overall trends for early adolescence are clear: less intrinsic interest in school, less positive feelings about school and about one's academic abilities, more anxiety and negative reactions to failure, and lower achievement. Nevertheless, such declines are not a necessary consequence of moving into adolescence. Rather, the effects of development on motivation in the early adolescent years depend on a combination of personal and environmental factors, including demographic and, possibly, personality characteristics of students, organizational features of schools, instructional methods, and the curriculum.

The Influence of the Learning Environment on Motivation

As described in the section on cognitive development, there is often a mismatch in middle level schools between the learning preferences of early adolescent students and the curriculum and instruction they receive. The increasing reliance on whole-class, lecture-style delivery in middle schools, relative to elementary schools, paired with early adolescents' desire and capacity for inquiry and control, make middle school a boring place for many students. Part of students' increasing disengagement with school during early adolescence may be due to increasing interest in nonacademic domains, such as sports and dating. These competing interests may be an inevitable part of maturation that will exist regardless of efforts made by educators to counteract them. However, the ability to match curriculum and instruction with the developmental needs of early adolescents is within the power of educators, and is something that would enhance the motivation of early adolescent students.

In addition to what is taught in middle level schools, the structure of these schools and the ways in which they have been organized have an effect on motivation. For example, the size of middle level schools may influence student motivation. Because students typically move from smaller elementary schools to larger middle level schools, this transition to the more impersonal world of middle level schools can make students feel somewhat lost. This issue will be discussed in greater detail in the next section on social development. For now, suffice it to say that it is easier for students to fall through the cracks in middle schools than in elementary schools, a fact that can lead to alienation and psychological, if not physical, withdrawal.

The organization of the school day into short periods in which academic subjects are taught in isolation from each other may also contribute to the declines in motivation many early adolescent students experience. Short periods that preclude working on longer and more authentic tasks may contribute to teachers' reliance on worksheets and whole-class lectures. In addition, when teachers are asked to teach the same subject to four or five different groups of students in short periods during the day, it may be difficult to avoid having instruction become somewhat automated. Fortunately, following the recommendations of the Carnegie Council on Adolescent Development (1989) and the National Middle School Association (1995), middle schools have begun adopting such practices as block scheduling, organizing teachers into interdisciplinary teams, and small house structures in order to reduce the number of students they see daily, as well as thematic instruction to help students see how academic subjects are interconnected. However, impediments to implementing these structures and practices have kept these reforms from being effectively implemented in many middle level schools (Felner et al., 1997; Mac Iver and Epstein, 1990).

Regarding the issue of social comparison and its potential effects on motivation described above, there is evidence that middle level schools promote social comparison more than do elementary schools. First, middle schools are more likely to divide students into separate classes on the basis of ability than are elementary schools. This practice, known as tracking, makes relative ability a salient feature of the learning environment. Although many middle level schools are abandoning formal student tracking, some form of ability grouping remains in evidence at most middle level schools (McEwin, Dickinson, and Jenkins, 1996). Second, grading systems in middle level schools tend to be more rigid and based on normative information than grading systems in elementary schools. In middle level schools, students are more likely to be ranked by class standing, and these ranks are more likely to be displayed publicly, either in classroom progress charts, schoolwide honor roles, or other recognition systems. Also, teachers in middle level schools are more likely to report engaging in instructional practices that emphasize ability goals in their classroom (i.e., that make ability differences between students in the classroom obvious) than are elementary school teachers. Students at the two levels of

schooling confirm these teacher reports, saying that they perceive a greater emphasis on ability goals in their middle level classrooms than they did in their elementary school classrooms (Midgley, Anderman, and Hicks, 1995).

Another element of middle grade education that may contribute to the motivational difficulties of some students involves the grading system. Many students experience a significant decline in their grade point average after they have made the transition to middle level schools. Although some of this can be traced to declining interest and effort on the part of students, there is evidence that middle school teachers simply assign lower grades for the same quality of work than do elementary school teachers.

Finally, the declining sense of control reported by early adolescent students may be partly due to middle school teachers' tendencies to be more controlling than elementary school teachers. Whereas students report a desire for a greater voice in classroom decisions after moving on to middle level schools (Midgley and Feldlaufer, 1987), middle school teachers believe that students need to be more firmly controlled, and given fewer choices, than do elementary school teachers (Feldlaufer, Midgley, and Eccles, 1988). This mismatch between students' desires and teachers' beliefs and practices in middle level schools may be due, in part, to the traditional lack of preparation that teachers who work specifically with early adolescent students receive.

Questions for Consideration

The study of motivation, like the study of most psychological phenomenon (especially development), has always involved a conflict between organismic and environmental perspectives. Is motivation a matter of individual differences, such that some people are simply more motivated than others? Or is student motivation determined largely by contextual factors, such as type of work, evaluation practices, or teaching methods? From the perspective of educators, viewing student motivation from an individual difference perspective can be debilitating. For example, if a student appears unmotivated, and the teacher believes this is a stable personality trait, the teacher is left with little hope for increasing the student's motivation. However, clinging to the belief that all students can be motivated by the right material or practices may lead only to frustration and self-blame while ignoring important motivational differences among students.

To fully understand motivation and development in early adolescence, researchers need to examine the interactions between personality factors and features of the learning environment (Lerner, 1987; Bronfenbrenner, 1994). For example, how do specific features of the learning environment (e.g., grading practices, lecture versus cooperative group structures, and tracking) interact with students' perceptions of their ability to become motivated? If some early adolescents experience a natural decline in their intrinsic motivation for school work as a result of growing interests in other domains,

what features of school either offset or augment this decline? If students really do have stable differences in their need for achievement or need for affiliation (see Atkinson and O'Connor, 1966; Mclelland, 1961) what instructional practices are best for accommodating these differences? What, specifically, do teachers do that influences whether students adopt task or ability goals? These are some of the questions that need to be examined regarding the development of motivation in early adolescence.

Another set of questions involves differences in motivation by gender, racial-ethnic background, and social status. For example, gender differences in self-esteem and self-efficacy in mathematics emerge in early adolescence and tend to persist thereafter (AAUW, 1992; Pajares and Miller, 1994). Undoubtedly, societal messages (e.g., lack of female scientist role models) play a role in this difference, but it is still not clear what instructional factors are involved. The AAUW report suggests that differences in the ways in which teachers interact with boys and girls are partly to blame (i.e., teachers in math classes are more patient in soliciting answers from boys than from girls). However, other work points to the different interaction and learning styles of boys and girls and that traditional classrooms favor boys' styles; this research is supported by findings from studies of single-sex classrooms and schools in which girls tend to fare better in the single-sex environments (e.g., Lee and Bryk, 1986). Clearly, additional research examining effective practices in coeducational environments that facilitate the motivation and learning of both male and female early adolescents is needed.

Because cultural and ethnic identity begins to crystallize in early adolescence, it is logical to assume that differences in motivation among cultural and ethnic groups may develop in early adolescence. However, little research has examined cultural and ethnic differences in motivation in this age group. Among early adolescent students, what are the differences in motivational orientation, and how do these differences affect academic attitudes and achievement? What are the factors, particularly in the school environment, that create these differences? What can schools do to address differences in motivational orientation between groups so that the achievement gaps that exist can be reduced or eliminated? Finally, what are some of the existing programs that have been designed to address these issues, and how effective are they?

A final set of questions concerns what is already known about motivation and reform targeting the middle grades. Much is already known about which motivational orientations lead to optimal learning and how to achieve them. For example, when teachers engage in practices that make ability differences between students a salient feature of the classroom (by pointing out the highest achievers in the class, for instance), students are more likely to adopt an ability goal orientation that has been associated with less adaptive learning outcomes than has a task goal orientation. Similarly, when students feel that their teachers are controlling them, for example, by using certain types of

extrinsic rewards or threats of punishment, they are less intrinsically motivated, more anxious, less creative, and their performance is impaired (Deci and Ryan, 1985; Lepper and Hodell, 1989). Despite this knowledge, policies and practices that undermine motivation continue to exist in middle level schools, and may perhaps increase as calls for accountability through standardized testing grow louder. Why is the gap between research and practice so large in the area of motivation? And what can be done to reduce it? Because policymakers, educators, and researchers continue to operate in separate venues, suggestions for increasing the intergroup exchange are needed.

Similarly, changes that have been advocated for years that are designed, in part, to increase the engagement of early adolescent students continue to be only sporadically implemented in middle level schools. As small-house, advisory, interdisciplinary-teaming, and block-scheduling programs continue to proliferate in middle level schools, several questions need to be continually asked. What are the impediments to implementing these programs effectively? What effects do these programs have on motivation, and how much do the effects depend on the quality of the implementation? What are the consequences of implementing only some of the programs, while maintaining some traditional programs (e g., instituting an advisory program while maintaining tracking)? Felner and his colleagues (1997) have undertaken an ambitious evaluation of the effects in schools that have adopted, to varying degrees, the reforms proposed in the Carnegie Council's report *Turning Points*, which may provide an effective model for answering these questions in the future.

▶ Social Development in Adolescence

At no other time during the course of development are people more susceptible to the influence of peers than during early adolescence. Although studies vary somewhat regarding the exact age or grade of maximum peer influence, early adolescence (between seventh and ninth grade) has been identified frequently (Berndt, 1979; Steinberg and Silverberg, 1986). As youth develop the confidence and capacity to decide for themselves what is right and wrong, and what their identity will be, they begin to separate themselves from their parents and establish some independence from their influence. At the same time, early adolescents become highly concerned with the perceptions of their peers, with fitting in, and with establishing their social identity (Juvonen and Weiner, 1993). These factors combine in early adolescence, giving peers a larger role than at other times in development in shaping each other's attitudes and behaviors. Despite the increasingly important role of peers during this period, it should be noted that adults, especially parents, continue to exert a large influence over youths' beliefs and behaviors. Whereas peers are turned to for guidance in such matters as fashion, style, and many social behaviors (e.g., dating, peer-group affiliation, and after-school activities), parents remain the dominant influence in such domains as career aspirations and college plans (Epstein, 1983; Steinberg et al., 1992).

In addition to changes in the importance of social relationships with peers during early adolescence, there are a number of changes in the structure and function of these relationships during this period. For example, with the transition to middle level schools, friendship groups are often shuffled and students from different elementary schools come together in the larger middle school. Early adolescent students find themselves with new and more varied options for selecting friends. Although this shuffling of friendship groups can be exciting and often leads to strong new friendships, research shows that when students make the transition to middle level schools, old friendship networks are often disrupted or destroyed. Students who are able to maintain friendships during the transition find the adjustment to middle level schools easier than do students whose old friendships are broken at this time (Hawkins and Berndt, 1985).

During early adolescence, friendships tend to become more intimate. For example, friends spend less time in play activities and more time simply talking and "hanging out," especially girls (Parker and Gottman, 1989). Friendship groups also tend to become larger, with several different cliques forming accompanied by the emergence of a status hierarchy among cliques. These cliques can often have rigid rules, understood if not written, that govern issues of dress, ways of speaking, appropriate levels of academic success, social activities, and acceptable friends (Brown, 1989; Eder, 1985). Whereas girls and boys tend to socialize in gender homogeneous groups during childhood, by early adolescence, the social groups begin to grow more integrated in terms of gender, and sexual interest between the genders emerges.

For several decades, concerns about social relationships in adolescence were believed to impair academic achievement and motivation. Coleman (1961) argued that, among high school students, high academic achievement was not viewed by either boys or girls as a precursor to popularity. Horner (1972) claimed that college women actually feared that academic success would lead to social rejection, especially by men. And theories of motivation prevalent in the 1950s and 1960s proposed that achievement motivation was inversely related to social, or affiliation, needs (Atkinson and O'Connor, 1966; McClelland, 1961). This view of the relationship between social and academic motivation is also common among educators and parents of early adolescents who frequently witness the co-occurrence of declining motivation in school and increasing social activity with peers.

The causal relationship between social and academic concerns is complex. Does an increased emphasis on gaining acceptance from peers during early adolescence reduce the emphasis placed on striving for high academic achievement? Or does declining interest in school lead many adolescents to strengthen their social bonds with peers who hold similar views about education? The answer to these questions appears to be both yes and no. Research has shown that in childhood (Kinderman, 1993) and adolescence

(Epstein, 1983, 1989), peers select their friends largely on the basis of proximity and similarity (of appearances, interests, achievement levels, and so on). Once friends have selected each other, their attitudes tend to grow more similar over time. When friendships are disrupted (e.g., by moving to different middle schools or by meeting new friends), or when friends' attitudes grow dissimilar over time, children and adolescents choose new friends, again on the basis of proximity and similarity. The cycle continues throughout life, but early adolescence represents a period of high social network disruption and intensification of social interest in peers.

The study of friends' influence on each others' school-related attitudes, beliefs, and achievement has revealed that friends can influence each other in positive or negative ways (Berndt and Keefe, 1992). When an early adolescent has a friend who strives to do well in school, likes school, and gets good grades, her own motivation and achievement will probably be positively affected over time. Conversely, students who befriend other students who dislike school, do not try to do well, and do poorly in school will likely be negatively affected over time. If disparities in attitudes and achievement levels of friends persist over time, students will likely disband the friendship and seek new friends with more similar school-related attitudes and behaviors.

Unfortunately, little is known about the strength of peer influence on school-related beliefs and behaviors or about the process of peer influence. One reason there is so little information on these issues is that early adolescents have a difficult time describing the ways in which their friends or other peers affect them (Berndt and Keefe, 1992). When asked directly, early adolescents often deny that their friends have any effect on the way they view school or how well they do. They usually say that they do not discuss school with their friends, and overt pressure to increase or reduce effort or achievement in school is very rare. Adolescents are particularly reluctant to say that their friends or other peers exert a negative influence on them. Although it is possible that these declarations and perceptions are accurate, it is more likely that peers do influence each other in positive and negative ways, and that much of this influence occurs unconsciously, through identification (Berndt and Keefe, 1992).

There is also some evidence of differences in peer influence by race-ethnicity, gender, and culture (see Urdan and Maehr, 1995). Regarding gender, there is evidence that girls are more concerned with maintaining their social relationships through equality of achievement, whereas boys' positive relationships are more competitive in nature (Urdan, 1997). Several studies have suggested that the concern among girls with maintaining equality and not belittling friends by greatly outperforming them may reflect a caring, interconnected orientation more often found among girls and collectivist cultures (Gilligan, 1982; Markus and Kitayama, 1991; Triandis, Leung, Villareal, and Clack, 1985). In some studies, this type of orientation has led some students to intentionally sacrifice

their own performance in school for the sake of helping their friends do well (Phelan et al., 1991). An additional body of research has examined racial-ethnic differences in peer influence. Some of this research has found that black students are more likely than white or Asian-American students to discourage high academic achievement (Fordham and Ogbu, 1986; Steinberg et al., 1992). However, it is not clear from this research whether such negative attitudes toward high achievement among black students are widespread or have a direct effect on peers' attitudes and performance in school, or whether these differences were due to racial-ethnic background versus some other factor, such as socioeconomic status.

Although peer relationships in early adolescence have received the bulk of research attention, it should be noted that their relationships with adults also change during this period. In addition to their growing independence from parents in some domains, early adolescents also seek different types of relationships with adults other than their parents. Specifically, early adolescents seek close relationships with adults from whom they can seek advice and friendship that is more mentoring in nature than parental. While young adolescents may appear to have disdain for authority, in fact, they often seek personal relationships with adults.

Schooling and Social Development

There has been little research that has directly examined the ways in which the structures or instructional practices in middle level schools affect social relationships or social influence processes. However, on the basis of knowledge about social development in early adolescence and middle level school structures and practices, it is possible to speculate about what the effects may be. Indeed, this knowledge has informed the recommendations of the Carnegie Council on Adolescent Development, among others, to suggest changes in the social structure of middle level schools in order to better meet the developmental needs of early adolescents. Small house organization and advisor-advisee programs are two examples of such changes.

When early adolescent students make the transition to middle level schools, they typically enter schools that are larger than their elementary schools. In addition, they often experience profound changes in their social networks such that the social supports they have developed in elementary school (i.e., friends, a teacher) are no longer present in middle school. Socially speaking, students often have to start over when they enter middle school, developing new school-based social networks. In some sense, traditional middle school structures meet this need well because they provide many opportunities for students to interact with each other and several different teachers. Because students change classes five or six times a day, moving to a new teacher each time and having different students in each class, they come into contact with a wide variety of potential additions to their peer and adult social networks. Unfortunately, the instability and sheer

number of people students come into contact with during the typical school day, coupled with the short period of time spent with each group, can also cause students to feel more alienated than socially connected.

To reduce this instability and increase students' chances for establishing solid social relationships, small house structures and advisor-advisee programs have been recommended for, and implemented in, many middle level schools. In a well-organized small-house structure, students are divided into smaller "houses" with a limited number of teachers. For example, each house may involve one-third of the student body and teachers. This effectively reduces the size of the school for students because they take classes only with other students and teachers in their "house," thus, improving their chances of getting to know them. Within houses, teachers may also be organized into interdisciplinary teams. One team may have four teachers, each teaching one of the core academic subjects (math, science, English/language arts, and social studies). This team may be responsible for teaching 100 students, organized into four 25-student groups. Each group moves, intact, from class to class, increasing the amount of time they spend with one small group of students, while decreasing the number of students they share classes with each day. The desired effect of such organizational changes is that students get to know each other and their teachers better.

To further reduce the anonymity of the middle school experience while satisfying early adolescents' desires to develop close relationships with nonparental adults, many middle schools have adopted advisor-advisee programs. Such programs generally involve a group of students who begin each day in their homeroom with their advisor-teacher. A brief period is spent discussing adjustment issues, such as how students are feeling that day, whether they're having problems with school or in their personal lives, and so on. Some programs have a more formal curriculum where such issues as coping strategies, relationship issues, and the like are discussed. Students are then sent off to their academic classes, and often end the day back in their advisor-teacher's classroom. The advisor often tries to establish a personal relationship with each advisee, assuming a supportive role. In addition, the advisor also often becomes the contact person for other teachers and parents when problems arise with one of his or her advisees.

Despite these efforts to create structures and programs designed to meet the social-developmental needs of early adolescents, many middle schools still do not appear to meet these needs well. There is evidence that such programs and structures as small-house, teacher teams, and advisor-advisee, although widely recommended by middle school advocates, are often either not adopted nor effectively implemented in middle level schools (Mac Iver and Epstein, 1990). This means that at a time when many students are developing a desire to build personal relationships with adults other than their parents, they are moved from a system in which they spend the entire day with one

adult to one in which they spend about 50 minutes a day with several different teachers, each of whom interacts with between 100 and 150 students a day.

Because students tend to develop friendships largely on the basis of proximity, practices that place students in proximity to each other need to be considered in light of the influence patterns they might spawn. Tracking by ability puts students in close proximity with students who have similar ability levels and, most likely, similar attitudes toward school. For those placed in the high track, this may lead to friendships that are supportive of academic effort and achievement. Students placed in low tracks, however, are more likely to develop friendships with other low-achieving students who may be starting the process of disassociation with school than if they were placed in mixed-ability classes where they would be in close proximity with high-achieving, positively-oriented students.

Instruction in middle level schools typically utilizes more whole-class and less cooperative group work methods. Because this shift in instructional techniques occurs at a time when students are becoming more concerned with their social relationships with peers, a developmental mismatch may be occurring. Some research has shown that at the high school level, students who are particularly concerned with social relationships try hard and do well in classes where they are allowed to work cooperatively with friends, but withhold effort and do poorly in classes where cooperation and discussion among peers is not allowed (Phelan et al., 1991). Cooperative learning programs, if effectively implemented, may provide a useful way of combining instruction in middle level schools with the social-developmental needs of early adolescent students (Slavin, 1983).

Finally, research indicates that middle level schools tend to place a greater emphasis on relative ability and competition than do elementary schools. This competitive orientation may be directly at odds with the social orientation of some students, particularly girls and those from cultural groups with a more collectivist orientation. When success is defined competitively, those students with a more cooperative or collectivist orientation are placed in an awkward position because their academic goals are in direct conflict with their social goals. By providing alternative, less competitive ways of succeeding, middle level schools may help all students in their efforts to coordinate their social and academic goals.

Questions for Consideration

Although much study has been conducted on social development and early adolescents' changing social relationships, there is much less research examining the extent to which, and the processes by which, friends and the larger peer group influence students' academic motivation, beliefs, and behaviors in middle level schools. Epstein (1983) has provided evidence that some social influence occurs in middle level schools, and there is

limited evidence that the influence of friends and peers can be either positive (i.e., toward academic effort and achievement) or negative (Berndt and Keefe, 1992; Urdan, 1997). However, this work is generally small in scope, more inferential than direct, and equivocal. Researchers to date have had a difficult time verifying what everyone seems to know intuitively: early adolescent students' motivation and performance in school is affected by their peers. How this process occurs, and what role school structures and instructional practices play in the process, are questions remaining to be answered.

Another set of questions revolves around differences in peer influence according to student characteristics. Do girls influence each other differently than boys on achievement-related beliefs and behaviors? Do instructional practices interact with social development differently for boys and girls, or for students from different racial-ethnic backgrounds or cultures? Is there a buffering effect against potential negative influences of the larger peer group for those students with one or more close friends who value academic achievement? There is indirect evidence to support the assumption that students who view their commitment to their social relationships in various ways will be affected differently by educational practices that promote cooperation, competition, and independence. However, the lack of direct examination of these issues leaves them unanswered questions in need of research.

Finally, still little is known about the effect of programs designed to improve the match between middle level schools and the social-developmental needs of early adolescent students. In those schools where small-house structures, interdisciplinary teams, and advisor-advisee programs have been implemented, what are the effects on students? Do they feel less isolated in school? Is their adjustment to middle school, both academic and psychological, more adaptive? Are the benefits of these programs cumulative (over time) and additive (by number of programs), or is one good program enough to make a difference? And what are the keys to successful implementation and maintenance of these programs?

▶ Physical Development

Early adolescence is triggered by biochemical changes that alter children's physical characteristics. Somewhere between the ages of 10 to 15 years, youth normally experience a radical growth spurt second only to that of infancy: primary and secondary sexual characteristics assert themselves, and observable increases may be noted in body size, body symmetry, and the skeletal and structural framework (George and Alexander, 1993). During this period of intense physical change, some body parts (e.g., the arms, nose) may grow faster than others, causing young adolescents to appear gangly and uncoordinated or to become overly fixated on their appearance (Lawrence, 1980; Milgram, 1992).

Moreover, because adolescents are set to different biological clocks, physical differences may be exaggerated as youth enter and complete puberty at different times. This can lead

to feelings of awkwardness and self-consciousness as they try to cope with their rapidly and, at times, irregularly changing bodies. While it has been suggested that grouping young adolescents by size, rather than by age, can diminish feelings of inadequacy in classes such as physical education (Manning, 1993), such an approach may be less viable in academic classes, where cognitive, emotional, and intellectual changes lag behind physical developments and may be manifested at different times. As such, middle grade educators often must confront classes of students who manifest a range of physical characteristics—a six- to eight-year physical age span may be found within one classroom—and who are overly sensitive to the physiological differences that set them apart (National Staff Development Council, 1994).

Physical development can complicate interactions between the sexes, because as youth begin to take a greater interest in their sexuality, their attention may be diverted from their school work and other important issues. Since females mature faster than males, there can also be friction between the sexes that can polarize intergroup relations. Girls typically begin their growth spurt two years earlier than boys, meaning that the greatest physical variability between the sexes is usually recorded around age 13 (Tanner, 1978). Girls who experience relatively early onset of puberty, so-called early developers, often have lower self-esteem than do later developing girls (Eccles and Midgley, 1989). Recent evidence suggests that certain social factors, such as poverty, can also affect the onset of physical development within and across sexes. Furthermore, the age at which young adolescents enter puberty has steadily fallen; for example, the average age of menarche has dropped from 16 to 12 years of age over the past one and a half centuries. Since cognitive development is often not completed until the late teens, these changes may mean that sexual maturity outpaces social and emotional development (Hamburg, 1992).

The hormonal surge that initiates growth also directly affects adolescent behaviors. For instance, fluctuations in basal metabolism can affect youths' ability to concentrate, and can cause sudden bouts of fatigue that render them indifferent or lethargic. In rare cases, hormonal changes may also cause unpredictable mood swings that may lead youth to behave in aggressive or inappropriate ways (California State Department of Education, 1987). Thus, educators may face significant challenges in designing instructional programs that appeal to a wide range of student abilities, or that take into account environmental or biological factors that affect maturation rates. Engaging youth in structured learning during this time often requires using innovative strategies that motivate youth to participate; this may include providing instruction that emphasizes performance of various activities or that offers frequent opportunities for physical movement.

Physical Development and Schooling

The once-dominant view that physical development during early adolescence made students virtually incapable of learning has largely been replaced by a more balanced

view. However, to develop effective instructional organizations and methods for the intermediate grades, it is important to understand the contributions of physical development to the learning process. One way to think of physical development during early adolescence is as an enabling mechanism. Physical development is closely tied to cognitive development that, if appropriately served by instructional methods and curriculum, can lead to enhanced motivation and performance. Another way to think about physical development is as a stress factor. From this perspective, the awkwardness and physiological disruptions (e.g., mood swings) that often accompany physical development, when combined with other stress factors that occur at this period of development, can lead to decrements in motivation and performance in school.

One such stress factor that may interact with physical development is the transition from elementary to middle level schools (Simmons and Blyth, 1987; Eccles and Midgley, 1989). There is some evidence that early adolescent students who attend K–8 schools rather than switching to a middle level school in sixth or seventh grade experience less negative changes in their motivation, self-perceptions, and achievement (Eccles and Midgley, 1989). Although differences between the two grade configuration systems are not always found, when there are differences, they tend to favor the K–8 system. One reason for this may be that simply making a transition at a time of multiple stressors, including physical changes, the onset of dating behavior, and changing social networks, adds to adjustment difficulties. Middle level schools that have taken steps to smooth the transition from elementary school, such as creating smaller "houses" within the school and establishing advisor-advisee programs, are able to reduce the negative changes often seen during early adolescence (Eccles and Midgley, 1989). This research shows that declining self-perceptions, motivation, and achievement are not an inescapable consequence of physical changes associated with puberty. In addition, it demonstrates that responsive school practices that reduce the stress of students' transition to a new school can improve their adjustment.

Questions for Consideration

As the research illustrates, the stress associated with the difficulty and awkwardness of rapid physical changes during early adolescence can be exacerbated or ameliorated by features of the learning environment in middle level schools. Much more information is needed regarding the interaction of physical development and the learning environments of intermediate schools to address the following issues. What are the most effective strategies for dealing with the enormous disparity in the level of physical development found among early adolescent students? How are these differences in maturation rates related to motivation and achievement in school? What, if anything, should schools do to accommodate possible gender and cultural differences in responses to physical development, such as body image?

The other area of physical development with important implications for education involves changes in the biochemical activity of the brain. Exciting developments in brain research may help explain the many changes in cognition that appear during early adolescence. How do changes in the brain affect early adolescent students' ability to process information? What are the implications of this development for the curriculum and instructional methods used in middle level school? Are physical developments in the brain partially responsible for differences between boys and girls in their perceptions of and interest in different academic subjects? These are just a few of the many questions that research on brain development during early adolescence might begin to examine. More questions for consideration regarding physical development will follow.

▶ Future Research: Examining Person-Environment Interactions and Evaluating Reform Efforts

Examining Person-Environment Interactions

Throughout this paper, the various areas of development in early adolescence have been discussed as though they occurred independently of each other. In fact, this unnatural division was created for ease, rather than accuracy, of presentation. After reviewing some of the research on cognitive, social, motivational, and physical development in isolation, the purpose of this section is to put the pieces back together and to add some new ones.

The overarching aim of this paper is to raise questions about the ways in which research can best inform the improvement of education for early adolescent students. As Lipsitz (1984) and others have argued, such improvements cannot be made without a deep understanding of development during this period.

> *A central weakness in most schools for young adolescents is a wide-spread failure to reconsider each school practice in terms of developmental needs in order either to incorporate responsibility for meeting them into the schools' academic and social goals or to keep them from being barriers to attaining these goals (p. 168).*

To achieve this unity between educational goals, practices, and curriculum with early adolescents' developmental needs, the various areas of development need to be considered in relation to each other. It is clear that social development during early adolescence is partly dependent on physical maturation as well as cognitive developments that allow individuals to more easily empathize with others, understand and identify with gender and cultural norms, and develop more mature social relationships with adults other than their parents. More research is needed that explicitly examines how the various components of development are interrelated. Recent advances in research on physical development, particularly brain processes, offer the promise of exciting new understandings about development in all areas, especially cognitive development.

In addition to examining the relations among the various domains of development, future research would profit from exploring the interactions between individuals and the contexts in which they operate. As Lerner (1987) and Bronfenbrenner (1994) have persuasively argued, development occurs in multiple contexts, and these contexts interact with each other, and with the individual, to produce psychological adjustment and behavior. The research on the interaction of individuals and environments has already revealed interesting differences between students in their responses to the changes that occur during early adolescence. For example, the steep decline in self-esteem for girls, particularly early maturing girls, relative to boys upon entry into middle level schools has helped to clarify the relationship between physical development and school transitions.

A focus on the interaction between individuals and contexts needs to include the school, home, and community. Perhaps the most interesting outcome of this research will be the differences in students' reactions to various contextual factors according to the sex, race-ethnicity, developmental level, home environment, and community context of their development. Research has already provided evidence that gender and racial-ethnic differences exist in students' responses to educational structures and practices (e.g., Eccles et al., 1996; Phelan et al., 1991; Simmons and Blyth, 1987; Steinberg et al., 1992). A vast number of questions remain, however. Are the differences that emerge in the motivation and cognition of boys and girls, particularly in math and science, best handled by single-sex instruction? Or is there a style of instruction that will cater to the needs of both genders equally well? Does the curriculum and typical style of delivery fit the developmental patterns of middle class students better than poor students? Will constructivist principles, faithfully implemented, have more positive effects in rural schools than in urban or suburban schools? What are effective strategies for increasing community involvement in middle level schooling, and will these strategies differ from community to community? This is just a sampling of the many questions that remain regarding the interaction of individual development and developmental contexts.

A related set of questions involves the relationship between schools and their communities. There is considerable evidence that parents' involvement with schools declines sharply when their children move from elementary to middle level schools (Epstein and Lee, 1995). Epstein and Lee, in one of the rare attempts to assess parent-school interactions at the national level, analyzed the NELS:88 data set. They concluded that contacts from middle level schools to parents were selective and infrequent, with most parents receiving little or no contact, beyond report cards, from schools. This lack of communication and interaction appears to be a two-way street, with most parents reporting that they never contact schools or serve as volunteers in the schools, although they do report talking about school with their children. Principal and student reports supported these findings. Combining the reports of parents, principals, and students, Epstein and Lee conclude that although parents try to monitor their early adolescent

students' academic activities, only "about 20 percent of families remain active and knowledgeable partners with their children's schools" (p. 147). These authors also note that parent-school partnership behaviors vary in frequency and type according to region and school characteristics (e.g., public/private, urban/rural, larger/small). The lack of communication between families and schools represents a risk factor, and there is evidence that when schools take active steps to create partnerships with parents, more families participate in the schools and student learning is supported. Therefore, additional information regarding best practices for increasing the bonds between parents and middle level schools are needed, as is information about how these relationships affect student motivation and achievement.

Evaluating Middle School Reform Efforts

A second, related series of questions involves direct examinations of instructional practices from a developmental perspective. As researchers have paid increasing attention to adolescent development over the last two decades, a number of suggestions for reforms at the middle school level have been offered and implemented. As Felner and his colleagues (1997) have noted, large-scale, high-quality assessments of these reform efforts are lacking. Middle school reform efforts need to be evaluated on at least three levels: (1) How widespread are the faithful, thorough implementations of various reforms? (2) What are barriers and facilitators of effective reform implementation? and (3) What are the effects of the reforms on students? An example may help to clarify each of these questions.

First, regarding questions 1 and 2 above, there is evidence that middle level schools are increasingly adopting the reforms recommended in *Turning Points* (McEwin et al., 1996). However, a number of middle level schools have been slow to adopt many of the recommended reforms, particularly in the area of specialized training for middle school teachers. Moreover, once they do adopt some of the reforms, there is evidence that they vary widely in their quality of implementation (Mac Iver and Epstein, 1990; Felner et al., 1997). Felner and his colleagues found differences in the achievement and adjustment of students were related to the level of implementation of reforms recommended in Turning Points. Mac Iver and Epstein found that among schools that said they had implemented interdisciplinary teacher teams, there was wide variation in the amount of time teams were given to plan and discuss interdisciplinary instruction. Thus, researchers need to continue to track the frequency and quality of implementation of programs designed to create developmentally appropriate middle level schools. In addition, researchers might do well to examine the structural and attitudinal barriers, as well as facilitators, of change. Often, motivation to adopt reforms depends on the attitudes of teachers and administrators toward students, development, and the reform itself (Lipsitz, 1984; Mac Iver and Epstein, 1990; Urdan et al., 1995). One important question regarding this issue is whether commitment to change must precede structural changes, or whether

structural changes can create commitment. Some successful projects involve only those schools in which faculty and administration members have voluntarily committed to make reforms (e.g., Cohen, 1992; Felner, 1997; Hopfenberg, 1991). However, much large-scale reform is mandated without prior commitment on the part of teachers and administrators in individual schools. It is important to determine whether this approach can lead to committed implementation and successful change.

Perhaps the most important of the three questions raised above is the last one, regarding the effects of reforms on students. Reforms designed to meet the developmental needs of early adolescent students are now in place, to some degree, in numerous middle level schools across the nation. What effect are they having? There is very little information, particularly at the national level, about how these reform efforts affect student achievement and motivation in school. Some examples of reforms in need of evaluation include middle grades certification of teachers, now required in a number of states; the use of alternative assessments, such as portfolios and performance assessments; development of small-house and interdisciplinary team structures; advisor-advisee programs; the development and implementation of a core academic curriculum suited to the developmental levels of early adolescents; and efforts to involve parents and the community in the school. Although efforts to assess the effects of such reforms occur sporadically and on a small scale nationwide, a well-organized, systematic evaluation is needed. It may be particularly interesting to examine the effect of specialized teacher training on adolescent development, as many believe that this is key to successfully educating early adolescent students (e.g., Lipsitz, 1984). Because teachers who have a thorough understanding of adolescent development can ostensibly create lessons, assessments, and programs that meet the developmental needs of these students, this may be a particularly important aspect of reform to assess. In addition, programs to create whole-service schools, in which mental and physical health services, along with educational services, are offered to students and members of the community, have proliferated across the nation in recent years. Evaluations of these programs are needed as well.

Conclusion

Educators have long recognized that early adolescence can be a difficult time for some youth. Until recently, the solution has often been to ignore, or at best tolerate the behavioral and emotional changes that characterize adolescence. Indeed, over the past decade, most school reform efforts have tended to focus on instruction in the elementary and secondary grades, with the result that middle grade curricula, instruction, and organization have remained relatively stagnant. Growing recognition that early adolescence can be a critical event in the lives of youth, one in which they make decisions that can affect their future life and career success, has increasingly drawn researchers to study the stages and events that mark its progression.

Presently, much is known about the developmental changes that characterize early adolescence, and a growing literature is addressing the manner in which traditional school organizations affect educational outcomes for this group of children. As middle school reform efforts continue to take hold in schools, the time has come to evaluate the implementation and effects of these programs on students. In particular, it is time to examine the fit between the developmental levels of early adolescent students and the programs, curriculum, and instructional practices being implemented in middle level schools. That is, it is important to determine which reforms foster and match the cognitive, motivational, social, and physical growth of early adolescents, and for which groups of students? Understanding the programs and practices that work best, while continuing to develop an understanding of development during early adolescence in all its complexity, will enhance efforts to create developmentally appropriate schools for all early adolescent students.

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CHAPTER TWO

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Implications of Individual Difference Theories for Enhancing Adolescent Development

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▶ Implications of Individual Difference Theories for Enhancing Adolescent Development

The national initiative Healthy People 2000 (U.S. Department of Health and Human Services, 1991) spurred a serious discussion as how to help our nation's youth navigate the transition from adolescence to adulthood without engaging in unhealthy and risky behaviors. Not all youth are successful; some adolescents die from violence, drug and alcohol use and abuse, motor vehicle accidents, unsafe sex, and poor nutrition (National Research Council, 1995; U.S. Congress, 1991). Seventy-five percent of adolescent deaths are caused by injuries, homicide, and suicide. The consequences of substance use, injuries and disabilities related to motor and recreational vehicles, repercussions of unprotected sexual activity, mental disorders, chronic illness and eating disorders account for significant sources of adolescent morbidity (Millstein, Petersen and Nightingale, 1993). If health is not undermined, engagement in risky behaviors—e.g., drug and alcohol use and tobacco addiction, unprotected sexual intercourse, juvenile delinquency, and chronic school truancy and underachievement—limit adolescents' life chances. Dryfoos (1990) estimates that approximately half of our nation's adolescents engage in two or more of these risk behaviors, and 10 percent engage in all four. Even for those without health and behavioral problems, some have difficulties with academics, with engagement to school and other institutions, with civic responsibility, and with families and peers.

Solutions to these problems often take the form of health promotion (Millstein, Petersen, and Nightingale, 1993). Positive youth development, a promising complementary but distinct framework, focuses on how adolescents develop in healthy ways. Within this framework, resilience and competency building are central components to helping youth, and navigating adolescence in healthy ways is best viewed as a continuous process, with earlier life experiences shaping later outcomes. Programmatic efforts within this framework are increasingly called youth development programs.

The term positive youth development refers to the desired outcomes for our nation's youth. Realizing that consensus on what constitutes desired outcomes is difficult, they usually include health, happiness and productivity. It recognizes that preventing problem behaviors is not all that is needed to prepare youth for their future—problem free is not fully prepared (Pittman, 1991). In *Turning Points*, the Carnegie Council on Adolescent Development (1989) delineated five goals of successful adolescent development. Youth should be: (1) intellectually reflective; (2) en route to a lifetime of meaningful work; (3) good citizens; (4) caring and ethical individuals; and (5) healthy.

A parallel endeavor by the Center for Youth Development and Policy Research has addressed the fundamental question of what day-to-day experiences are essential for a young person to pass successfully through adolescence into young adulthood, allowing

the young person to acquire desirable (positive) behaviors, attitudes, and skills (Zeldin, 1995). Their answer, based on evidence from the work of numerous research roundtables, a review of 12 youth-focused task forces and synthesis reports, and a review of more than 200 research studies (see Zeldin, Kimball and Price, 1995 for annotated bibliography), is simple: **Young people need access to safe places, challenging experiences, and caring people on a daily basis.** A more elaborate answer specifies the opportunities and supports adolescents need. That is, young people need the opportunity for: (1) challenging and relevant chances for formal and informal instruction and training, including explorations, practice, and reflection as well as expression and creativity; and (2) new roles and responsibilities, including group membership, contribution and service, and part-time paid employment. The supports youth need include: (1) ongoing contact with people and social networks who provide emotional support, such as friendships and nurturance; (2) motivational supports such as high expectations, standards and boundaries; and (3) strategic supports, such as options assessment and planning and access to resources.

These needs can be met in schools, as well as families, peer groups, or communities. However, when circumstances prevent both economically affluent and disadvantaged schools, families, or communities from providing their youth with these needed opportunities and supports, youth development programs offer one avenue for fulfilling these needs. Increasingly, youth-serving organizations and programs are adopting the youth development framework, offering at least some of these opportunities and supports for participating adolescents and going beyond traditional prevention or intervention programs by offering an integrated, comprehensive approach to working with at-risk youth. Youth development programming is found in national clubs, such as the Boys and Girls Clubs of America, and countless local after-school activities and programs.

In the remainder of this paper we build a case for how the wealth of knowledge from research on adolescent development can provide insight and guidance for developing programs to enhance youths' chances of successfully navigating adolescence. Due to their potential to affect young adolescents, we focus our discussion of the applications of developmental theory to youth development programs. First we briefly describe the hallmarks of adolescent development. Next we discuss three developmental frameworks that provide insight into how individuals develop during the adolescent period. These include (1) developmental transition models, (2) ecological, or contextual models, and (3) risk and resilience models. All are helpful for understanding how research on adolescent development can guide the development of programs for improving adolescents' lives. The purpose of this discussion is to provide enough detail about these frameworks to inform program development efforts. We draw implications for program development throughout. The last section of the paper raises some areas for future research.

▶ Research of Adolescent Development

Puberty and entrance into middle school typically define the beginning of adolescence. During this period, adolescents encounter a number of complex biological, psychological, and social changes. Puberty itself is a key developmental challenge that is at the heart of development from child to adult. With pubertal development comes a more adult like physical appearance and adult reproductive capacity. As their bodies develop, youth begin to incorporate these changes into their construction of self and must learn to cope with others' responses to their mature bodies. As a response to their more adult like appearance, coupled with increased cognitive abilities, adolescents' negotiate with parents and other adults for greater psychological and physical autonomy. At the same time, adolescents are trying to develop a stable and cohesive personality structure for the regulation of mood, impulse, and self-esteem (Feldman and Elliot, 1990; Graber, Brooks-Gunn, and Petersen, 1996). In the process of adapting to their new roles, adolescents experiment with different "possible selves" (Markus and Nurius, 1986).

Thus, adolescence is a time of bodily changes, expanding independence, and growing self-discovery. As part of this, relationships—with parents, teachers, and peers—take on new meanings. In our current society, the period of adolescence is often divided into three parts. Early adolescence, characterized by physical and social changes, spans roughly from age 10 to age 14. Middle adolescence, marked by autonomy and experimentation, typically includes ages 15 through 17. Late adolescence, beginning at age 18, can continue through the early 20s, depending on individual choices in terms of continued education, employment, and marriage.

Despite the multiple physical changes and social challenges facing adolescents, it would be misleading to view adolescence as a time of total upheaval. Along with the changes, there is continuity among many aspects of adolescent's life (Lerner, Lerner, Eye, Ostrom, Nitz, Talwar-Soni, and Tubman, 1996). For example, the numerous changes during adolescence appear to be overwhelming only for some adolescents—those with less optimal peer and family relationships, poorer coping skills, and academic difficulties during middle childhood (Brooks-Gunn and Reiter, 1990; Nolen-Hoeksema, Girgus and Seligman, 1992; Lord, Eccles, and McCarthy, 1994). The three developmental frameworks discussed below offer a lens for understanding how development during adolescence occurs; we discuss the implications of each framework for health-related behavior.

Developmental Transitions

The concept of developmental transitions can be described as critical junctures along the path that connects children to their transformed physical, mental, and social selves (Graber, Brooks-Gunn, and Petersen, 1996; Schulenberg, Maggs, and Hurrelmann, 1997). According to this view, adolescent development consists of obvious (puberty, the move from elementary to junior high school) and subtle (shift from single-sex to mixed-sex

peer groups) transitions along the way to adulthood. These transitions are characterized by relatively universal developmental challenges. During periods of transition, many, if not all, individuals must acquire new modes to adapt to biological, psychological, or social changes. Development during these periods is based on interactions between individual characteristics and environmental conditions (described in greater detail in the next section on the contexts of development). Discontinuity, although not necessarily abrupt or unequivocal, is common to all developmental transitions. Each transition requires some change in adolescents' roles, how they make sense of themselves and their world, and how others view them. Most individuals navigate transitions equipped with the competencies needed to meet new challenges and take on new roles while further developing the skills necessary for these new roles (Graber and Brooks-Gunn, 1997). Individual differences in the experience or negotiation of a transition are associated with development prior to the transition, timing of the transition, the individual's experience of the transition, and the context in which the transition occurs (Rutter, 1989).

Both health risks and opportunities can occur, and may even be a part of, the role redefinition required by developmental transitions (Graber and Brooks-Gunn, 1997; Schulenberg, Maggs and Hurrelmann, 1997). Schulenberg and his colleagues (1997) propose four ways developmental transitions can influence health-related behavior.

1. Developmental transitions may cause health-compromising behavior. For example, the changes associated with developmental transitions contribute to stress. When the stress is beyond the adolescent's coping abilities, they may engage in health-compromising behaviors, such as substance use, as an alternate form of coping. Although most transitions throughout life contribute to stress, they do not necessarily overwhelm an individual's coping mechanisms. However, the multiple transitions associated with adolescence place adolescents at greater risk for stress overload, thus increasing the potential for health-compromising behavior.

2. Developmental transitions may alter the developmental match between individual needs and contextual opportunities. Mismatches between adolescents' changing psychological and social needs and what is provided in different settings, such as the family or school, can lead to health risks (e.g., Eccles and Midgley, 1989). This idea is explained more fully in the upcoming section on the school context.

3. Health-compromising behaviors may be part of negotiating developmental transitions. A certain amount of risk taking is normative, and can be both constructive and destructive to adolescents' health and development. For example, risk taking appears to be an important aspect of negotiating greater autonomy from parents (e.g., Irwin and Millstein, 1992).

4. Developmental transitions may exacerbate one's health risk status. Developmental transitions represent important junctures because they tend to increase interindividual variability in health and well-being. For example, evidence indicates that differences between adolescents with effective coping strategies and those without increase throughout adolescence (e.g. Kazdin, 1993).

Implications for Program Development. It is believed that both constructive and destructive behavioral change is more likely during periods of transition (Rutter, 1994). Thus, although youth of all ages would benefit from youth development efforts, we believe that the period of early adolescence marks an optimal time for focusing these efforts because of the many transitions (biological, social, and psychological) youth experience. These multiple transitions associated with early adolescent development make youth more vulnerable to health risks and more open to programs fostering healthy behaviors. In addition, risk-taking behaviors, (such as smoking cigarettes or drinking alcohol) initiated during transition periods are experimental, rather than ingrained behavioral choices, which might make them more amenable to change. Thus, youth development programs can provide young adolescents with the extra support and encouragement needed to gain, or maintain, health-promoting behaviors, such as guidance from a caring adult and life skills necessary for a healthy lifestyle. Youth development programs that engage youth before (or at the time) they begin to experience the stressors of the transition to early adolescence may have the advantage of offering the continuity of supportive relationships and skill development opportunities throughout this period.

Development as Embedded in Multiple Contexts

The ecological systems model associated with the writings of Urie Bronfenbrenner has had a major impact on the study of child and youth (Moen, Elder, and Luscher, 1995). As espoused by Bronfenbrenner (1979, 1986, 1995), the model suggests that children and youth live in various contexts, ranging from the most proximal to more distant environments. These contexts—family, peers, school, workplace, neighborhood, community region, and country—shape individual development through sustained, consistent interactions between individuals and circumstances in the context and characteristics of the developing youth. In addition, the ways in which the various levels interact with one another influence development.

This model highlights two beliefs about adolescent development that should serve as the basis for how youth programs approach their work with adolescents. First, consistent with the youth development framework, contextual theory views individuals as active shapers of their world; the adolescent and the multiple contexts in which he or she lives, as well as their unique interactions, shape adolescent's life course. Program developers and staff must recognize the active role adolescents play in their own development; their

choices may be constrained by their environments (resource poor neighborhoods or dysfunctional families), but adolescents make choices, in terms of their choice of friends or activities during non-school hours, that affect their development. In addition, the influence of multiple contexts on adolescent development cautions against unrealistic expectations for one program providing all of what adolescents need for healthy development.

Second, this theory emphasizes the plasticity of human development. The endpoint of development is not predetermined, either by genetic make-up or particular experiences. Changes in any of the adolescent's environments can alter his or her development.

A large research literature exists documenting the influence of some contexts, such as the family and school, but less empirical research has focused on the more distal contexts, such as the neighborhood or country, and even less research addresses the interactions among contexts. However, there is a growing literature specifically relating contextual influences to health-related behavior (see Schulenberg, Maggs, Hurrelmann, 1997; Millstein, Petersen, and Nightingale, 1993; Jessor, in press; Graber, Brooks-Gunn, and Galen, in press). This literature describes how individuals and circumstances within the different contexts can serve as either opportunities or barriers to health-related behaviors. We briefly review this research on the major contexts in adolescents' lives—family, peers, school, workplace, neighborhood, and American society to highlight the findings relevant to program development[1].

Family Context. The family exerts the most immediate and significant influence on development during the childhood period. Contrary to popular beliefs, the importance of the family does not disappear during adolescence, although other contexts do acquire greater significance during this period of development. The type of family environment most conducive to healthy development, however, changes as children grow. For example, feelings of connectedness, or a close parent-child relationship, are important during the childhood period. Some independence, or separation from parents, is a hallmark of adolescent development (Erikson, 1963). Yet, connectedness remains important; evidence suggests greater psychosocial maturity for adolescents whose parents combine separation with connectedness, and increased risk-taking when separation is not coupled with connectedness (Galambos and Ehrenberg, 1997). Recently released findings from the first wave of the National Longitudinal Study of Adolescent Health (ADD Health), a study of a nationally-representative sample of over 12,000 seventh through twelfth graders, further support the importance of continued family connectedness throughout adolescence. Family connectedness, defined as feeling close,

[1] We have not included characteristics at the individual-level because they typically cannot be modified by youth development programs (see, as an exception, the role of very intense exercise coupled with low nutrition intake upon the timing of puberty; Warren, 1980; Brooks-Gunn & Reiter, 1990). However, it may be important to alert those working with adolescents to how these individual-level characteristics impact adolescents' behavior. For example, although we can not alter the timing of puberty, beginning puberty earlier or later than one's peers impacts behavior, and interacts with contextual factors (Brooks-Gunn & Reiter, 1990).

loved, and understood by one or both parents, was associated with more optimal outcomes for each of the five health-related outcomes studied (emotional distress, suicidality, violence, substance use, and sexual behaviors) regardless of race, ethnicity, family structure, or poverty status (Resnick et al., 1997).

Family lifestyle choices can directly influence adolescents' health-related behaviors; patterns of alcohol consumption, cigarette smoking, overeating, and exercise habits modeled by parents influence their offspring (Perry, Kelder and Komro, 1993). A recent opinion poll found that only 39 percent of youth aged 12 to 17 thought parents who are good role models were very common (Farkas and Johnson, 1997). The health-related behaviors of older siblings also serve as models for adolescents exploring different ways to handle stress or changing social relationships with peers.

Typically, studies of the role of the family in promoting health-related behaviors focus on characteristics of the family context (e.g, income, structure) or relationships within the family (e.g., quality of the marital or parent-child relationship or parenting styles), or some combination of the two. The litany of family characteristics that negatively influence adolescent behavior is well-known—poverty, single parenthood, low parental education, and parental engagement in high-risk behaviors. Growing evidence demonstrates that such risks can be offset by adequate parent-adolescent relationships (Galambos and Ehrenberg, 1997). For example, demographic changes in American families have resulted in more unsupervised time for adolescents, increasing the amount of time they spend alone or with peers. Adolescents with less parental supervision show greater susceptibility to peer influences encouraging health-compromising behaviors. However, frequently unsupervised adolescents with warm and accepting parents who provide consistent, firm control and monitoring, even from a distance, engage in fewer problem behaviors than their unsupervised peers without such relationships (Steinberg, 1986; Galambos and Maggs, 1991). Reviews of the research on family relationships consistently describe the dimensions of parent-adolescent relationships that promote healthy development—closeness, communication, supervision/monitoring, and engagement in youths' lives.

Implications for Program Development: The findings about the importance of the quality of adolescents relationships with their parent(s) relate to program development, despite the fact that most youth development programs do not overtly acknowledge the beneficial role of the family[2] (Roth, Brooks-Gunn, Murray and Foster, in press). We see two ways in which research on the family context can inform program development by dispelling the myths about family relationships during adolescence and applying the important dimensions of parent-adolescent relationships to adolescents' relationships with other adults in a program settings.

[2] There are, however, a few programs specifically designed to improve the quality of parent-adolescent relationships.

Two popular, but unsupported views of adolescent-family relations undermine the role of parents in healthy adolescent development. The first, that parents do not matter once children reach adolescence, was addressed above. The second refers to the prevalent view of adolescence as a time of increased conflict between parents and their offspring. Little empirical support exists for this view (Galambos and Almeida, 1992). For the most part, parent-adolescent conflict consists of disagreements and mild bickering over everyday issues, such as household responsibilities and privileges (Smetana, 1988). Fewer than 10 percent of families appear to experience parent-adolescent relationships characterized by chronic and escalating levels of conflict and repeated arguments over serious issues (Holmbeck, 1996). Severe conflict, however, is predictive of poor adolescent adjustment (Steinberg, 1990). Moreover, mild conflict within the family may help adolescents negotiate health-compromising situations by encouraging the development of interpersonal abilities and conflict resolution skills (Galambos and Ehrenberg, 1997).

What does occur during adolescence is a redefinition of the parent-adolescent relationship, from one of unilateral authority to one of mutuality and cooperation. Although this process may cause stress within the family, the transformation typically occurs without disruption to the level of connectedness, warmth, and cohesiveness between parents and adolescents (Graber and Brooks-Gunn, 1996).

A change in both parental and societal views towards family relationships during adolescence is necessary to counter these views. In *Great Transitions*, the Carnegie Council on Adolescent Development (1996) recommends parent peer support groups and prospective guidance for parents on the realities of adolescent transitions, as well as a reassessment of public and private policies and practices affecting families. At the program level, staff and activities should work to strengthen, not undermine, family relationships.

The relationship dimensions discussed above are applicable to adolescents' relationships with other adults. Substantial research shows that family environments characterized by warm relationships where family members are permitted to express their opinions and assert their individuality, and mature behavior is expected, create the most beneficial environment for adolescent development (Steinberg, 1989). Adult-adolescent relationships initiated programmatically should ideally follow the same pattern. In fact, findings from the evaluation of the Big Brother/Big Sisters program suggest that creating such a relationship programmatically is both possible and beneficial for youth, but not easy (Sipe, 1996). Similarly, other programs, such as the Quantum Opportunities Program and Children's Aid Society Pregnancy Prevention Program, stress the importance of using paid staff as surrogate parents, who act as advocates and mentors for participants (Dryfoos, personal communication).

Peer Context. As children enter and progress through adolescence, they spend increasing amounts of time with peers (Csikszentmihalyi and Larson, 1984; Larson and Richards, 1991) and place increasing value on these relationships (Brown, Dolcini, and Leventhal, 1997). Popular perception holds that adolescents' peer relations have negative influences on adolescents' attitudes, behavior, and development; peer pressure is seen as a significant contributor to substance use, delinquency, crime, and antisocial behavior. Developmental research on peer relationships is primarily divided into two positions. One perspective asserts that peers and friends exert a negative influence on adolescents by compelling adolescents to engage in health-compromising behaviors such as gang membership, violence, and substance use (Barrett, Simpson, and Lehman, 1988; Steinberg and Silverberg, 1986). The contrasting perspective maintains that peer relationships are a positive influence on adolescents; these relationships promote moral development, coping strategies, increase self-esteem, and provide assistance in dealing with stressful situations (Berndt and Savin-Williams, 1993; Hartup, 1983; Piaget, 1932/1965). Relationships among adolescents—particularly friendships—promote social skill development; peer relations allow adolescents to recognize societal norms, practice defining and sharing leadership roles, and initiate and maintain social bonds (Gottman and Parker, 1987). The opposing perspectives agree, however, that the nature of a relationship determines its level of influence—close friends have the greatest influence and are also the most important to adolescents (Berndt, 1996).

Unfortunately, methodological shortcomings in research on peer relationships necessitate cautious conclusions regarding the influence of peers and friends. Most research examines the amount of similarity among adolescent and their friends. Similarity, however, cannot be used to determine the influence of friends; adolescents frequently choose friends similar to themselves (Berndt, 1996; Brown, 1990). A second significant shortcoming reflects adolescents' limited knowledge of their friends' behavior. Adolescents who engage in health-compromising behavior perceive, often inaccurately, that their friends' attitudes and behavior match their own. In a number of studies, adolescents assumed more similarity than actually existed between their friends' and their own attitudes toward sexuality (Wilcox and Udry, 1986), use of cigarette smoking and alcohol (Bauman and Fisher, 1986; Graham, Marks and Hansen, 1991), and use of illegal drugs (Ianotti and Bush, 1992).

The susceptibility of adolescents to peer influence is determined by several factors. Adolescents who are in a lower position (lower membership status) in the friendship group are more vulnerable to peer influence (Hartup, 1983; Sherif and Sherif, 1964). Adolescents with poorer relationships are more influenced by peers. In particular, adolescents are influenced more by friends when they experience neglecting or rejecting parental relationships (Dishion, 1990) and are less influenced by friends when they experience close and involving relationships with parents (Steinberg and Silverberg,

1986). Research also suggests that adolescents who are alienated from conventional groups (e.g., school and family) often establish strong social bonds with antisocial peer groups in order to establish a sense of belonging (see Elliot, Huizinga and Menard, 1989; Fuligni and Eccles, 1993). A third factor reflects the importance that adolescents attach to activities that impede friendships; adolescents are less influenced by peers when they devote themselves to excelling in such activities as academics or athletics (Berndt, 1996).

Implications for Program Development: Program designers and staff need to be cognizant of the dual role of peers. One way to reduce peers' negative influence is to help adolescents recognize their misperceptions about peers' health-related attitudes and behavior. Additionally, program development efforts can benefit from acknowledging that peers wield a great deal of reward power—control over resources that adolescents value. For example, peers regulate adolescents' access to companionship, support, activities, and membership to a group (Berndt, 1996). Thus, programs must recognize and address the underlying motivations (such as acceptance, identification with a group, or loyalty to a friend) for adolescent's attitudes and behaviors. Additionally, programs may need to not only increase adolescents' repertoire of successful social skills but to actually provide social interactions and activities that will allow adolescents' to forge a new image among peers. How adolescents are treated by their peers is often predetermined by adolescents' past behaviors and reputations; in order to avoid falling into the same traps as before, adolescents who are attempting to take a new path may need assistance in establishing a new image among peers (Brown, Dolcini, and Leventhal, 1997).

School Context. Schools are the primary formal socializing institution for youth. Adolescents consistently spend large periods of time in school, so it is not surprising that what occurs in school impacts their development. Researchers investigate the school context in a variety of ways. Some focus on how school characteristics, both structural and relational, influence adolescent development. Structural variables, such as size, teacher-student ratio, physical plant, organization, tracking and promotional policies, and racial and economic make-up have been linked to student achievement and health-compromising behavior, albeit these associations are modest, especially when background and family characteristics are taken into account. (Heckman and Lochman, 1998; Jencks and Phillips, 1998).

Relational factors studied include adolescents' relationships with school personnel, particularly teachers, other students or peers (discussed above), and with the institution of school. Teachers, like parents, can serve as role models for health behaviors. For example, Perry, et al. (1993) note a positive association between teachers and adolescent smoking rates within schools, and lower student smoking rates when teacher smoking in front of students is restricted. The quality of student-teacher relationships also contribute to healthy adolescent behavior. In their longitudinal study of high-risk

children, Werner and Smith (1989) found that resilient youth found emotional support outside their own families, often in a favorite teacher who became a role model, friend, and confidant. Among participants in the Adolescent Health study, adolescents who reported strong emotional attachments to their teachers were less likely to use drugs and alcohol, attempt suicide, engage in violence, or become sexually active at an early age (Resnick, et al., 1997). In fact, positive relationships with teachers exerted a stronger influence on adolescents' health-related behaviors than the school structure variables (classroom size, attendance and dropout rates, school type, and amount of teacher training).

Adolescents' relationship to school also appears to influence their health-related behavior. Academic achievement and involvement in school-related activities are two ways of measuring adolescents' engagement with school. Research consistently finds that adolescents with poor academic skills and low grades are more likely to engage in health-compromising behaviors (e.g., Dryfoos, 1990). In a 16-year longitudinal study of school adaptation and social development, Cairns and Cairns (1994) found that engagement in extracurricular activities reduced health-compromising behaviors, particularly for students at greatest risk for dropping out. Using national data sets, Zill, Nord and Loomis (1995) found that after controlling for race and poverty status, tenth graders who reported spending no time in school-sponsored activities were 57 percent more likely to drop out by senior year, 49 percent more likely to have used drugs, 37 percent more likely to become teen parent, 35 percent more likely to have smoked cigarettes, and 27 percent more likely to have been arrested compared to students spending one to four hours per week in extracurricular activities. However, involvement in activities did not lower the rates of binge drinking, and involvement in varsity sports actually increased such behavior.

Another avenue of research on the school context brings together characteristics of the school environment and the developmental needs of adolescents to explain the decline in academic achievement and increase in social, emotional and behavioral problems that begin to appear during early adolescence. Research by Simmons and Blyth (1987) and Eccles and her colleagues (1989, 1991, 1993) documents fewer such changes among students in K–8 schools compared to students attending K–6 schools. They ascribe the detrimental changes to the transition to junior high or middle school. Multiple transitions negatively impact adolescents. That is, the transition to junior high school, which entails new role demands presented by parents, peers, and teachers, occurs at the same time most young adolescents are also experiencing the physical, psychological, and social changes of puberty (Simmons and Blyth, 1987; Brooks-Gunn, 1991).

Eccles and Midgley (1989), drawing on person-environment fit theory, attribute the motivational and behavioral declines to a mismatch between the school environment and the adolescent's psychological needs. They found that often students' elementary schools were more aligned with their psychological needs then their new junior high or

middle school environment. Eccles, et al. (1997) describe the macro- and classroom-level changes that occur as students move from elementary to junior high or middle schools. These changes occur at a time when young adolescents are beginning to think of themselves as young adults, desire greater autonomy, believe they are becoming more responsible, become more self-conscious and peer oriented, and place greater salience on identity issues and concerns over intimate relationships.

Junior high and middle school environments are characterized by increased school size, increased bureaucratic organization, increased departmentalization, and decreased individual attention and opportunities for close relationships with teachers compared to elementary schools. In the classroom, junior high and middle school teachers tend to place greater emphasis on teacher control and discipline, provide fewer opportunities for student decision making, choice and self-management, and employ more competitive standards for grading and judging competence then teachers in elementary school classes. Furthermore, junior high and middle school teachers report feeling less effective as teachers, especially for low-ability students. Thus, at a time when young adolescents need careful monitoring by caring adults and challenging, but safe, opportunities to explore different behaviors and identities, schools offer less personal, more restrictive, and more competitive environment.

Implications for Program Development: In *Turning Points*, the Carnegie Council on Adolescent Development (1989) called for curricular and structural changes in middle school education. Finding from the Project on High Performance Learning Communities, a network of almost 100 schools involved in restructuring following the Carnegie Council's recommendations, support the importance, and highlight the difficulties, of middle school reform (see Felner, Jackson, Kasak, Mulhall, Brand and Flowers, 1997). We believe school reform is critical for enhancing healthy adolescent development. However, youth development programs may make a difference in the lives of youth, even though they cannot compensate for poor schools. They can encourage a strong commitment and connection to school. This typically occurs indirectly through program staff expectations for adolescents' achievement, as well as directly through homework assistance or staff contact with participants' teachers and school personnel. Additionally, structured program activities should develop skills, create challenges, and provide fulfilling experiences for participants, not just fill idle time.

The brief description of how the differences between elementary and junior high or middle school environments relate to adolescents' psychological needs can provide insight into how program structures can influence adolescent participants. Most directly, the environment created by youth programs needs to match the changing needs of its adolescent participants. For example, program staff need to be flexible to meet the changing needs of adolescent relationships; at some times, or for some adolescents, a

caring staff member lends a nonjudgmental ear, while for other adolescents, or for the same adolescent at another time, a caring staff member sets firm boundaries for behavior.

Work Context. Today, almost all youth work at some point during their high school years. Over 70 percent of the participants in the Monitoring the Future study reported working for pay, and almost half the males and one third of the females worked more than 20 hours per week (Bachman and Shulenberg, 1993). How working during adolescence influences development remains controversial. Does employment during adolescence provide youth with skills needed for future employment? Or, does it take time away from important academic pursuits and provide youth with excess disposable income for engaging in health-compromising behaviors? Empirical evidence, often from the same study, provides support for both the positive and negative consequences of youth employment.

Public attitudes towards employment during adolescence are highly favorable. Recent efforts at bridging the school-to-work transition suggest increasing adolescent involvement in the workplace as a way to teach youth the practical tasks necessary for later success as adult workers and to expose them to a wide range of occupational options. Similarly, most parents approve of their adolescent's employment, believing it offers increasing autonomy and independence, opportunities for responsibility, and practice in time management (Finch, Mortimer and Ryu, 1997). Empirical research shows some positive consequences from adolescent employment, including self-reported punctuality, dependability, and personal responsibility, and for girls' increased self-reliance (Greenberger and Steinberg, 1986), decreased high school dropout for employment of fewer than 20 hours per week (D'Amico, 1984), and increased employment and earnings in the years following high school (Steel, 1991). Ethnographic work with low-income youth finds that the adult monitoring and economic gains from employment can result in increased school engagement and decreased criminal and delinquent behavior (Newman, 1996; Sullivan, 1989; 1996).

Contrary to public attitudes, researchers sound warnings about the risks of youth employment. Health risks include increased exposure to dangerous machinery, noxious fumes or excessive heat and cold, and chronic fatigue from long hours or working at night, which result in injury serious enough to require emergency room treatment for approximately 64,000 youth ages 14 to 17 per year (Finch, Mortimer and Ryu, 1997). Psychological risks include stress from taking on adult responsibilities without adequate support or coping skills, disruptions in social relationships, and distress from the overload caused by school and work activities. Findings from prominent studies describe negative consequences of adolescent employment, such as emotional distress, increased cigarette, alcohol and illicit drug use, and higher rates of school tardiness and misconduct (Bachman and Schulenberg, 1993; Greenberger and Steinberg, 1986;

Mortimer, Finch, Ryu, Shanahan, and Call, 1996; Steinberg and Dornbusch, 1991; Steinberg, Fegley, and Dornbusch, 1993). Data from the widely publicized Adolescent Health study support earlier studies showing negative outcomes (use of alcohol, drugs, and cigarettes, early sexual activity, and emotional distress) associated with working more hours, especially 20 or more hours per week during high school (Resnick et al., 1997).

The discrepancy in findings about the consequences of adolescent employment stem from the lack of distinction between informal work, such as babysitting or summer jobs, and formal part-time work, as well as the failure to consider the quality of the work environment. Long hours spent working in poor-quality formal jobs during the school year appear to be the most detrimental to adolescent's grades and health, particularly alcohol use and smoking (Bachman and Schulenberg, 1993; Finch, Mortimer, and Ryu, 1997). Restaurant work, the archetypical teenage job, characterizes a poor quality job—it requires few skills, offers little adult supervision, is unconnected to anticipated future jobs, and done only for money. Alternatively, the same research found many direct benefits of high-quality work experiences, including reduced substance use and better mental health.

Implications for Program Development: We can draw some parallels for youth programs from the qualities of high-quality work experiences. That is, adolescents who worked in jobs requiring the mastery of new skills and offered opportunities to help others showed more positive outcomes (Finch et al, 1997). Jobs, like programs, are the most beneficial when they challenge adolescents. One way programs have sought to involve participants in challenging experiences is through opportunities for community service or volunteer work. When youth volunteer in their community, they have the chance to broaden their knowledge and understanding of others, learn and practice important life skills in a real settings, and make a valuable contribution to their community (Hamburg, 1990).

Neighborhood Context. The influence of the neighborhood context on adolescent development can include the ease of access to health-compromising substances, such as the availability of cigarette vending machines, availability of guns, or the enforcement of alcohol minimum age laws. In addition, researchers have looked at how neighborhood resources, or lack of resources, influence adolescent development (especially crime; Sampson, Earls, and Raudenbusch, 1997). Most of this research focuses on how factors in poor, urban neighborhoods impact their residents. Some researchers, such as Wilson (1987, 1991), focus on how macro-level changes such as deindustrialization and suburbanization led to increases in poverty, joblessness, and social isolation. He associates these structural changes with residents' behavioral manifestations, such as out-of-wedlock childbearing, crime, welfare dependency, and school drop-out. Such behavior impacts neighborhood adolescents through collective socialization, such as the presence of adult role models and monitoring, or through contagion, a concentration of problem behaviors indirectly influence adolescents through peer influences (Leventhal, Brooks-

Gunn, and Kamerman, 1997). However, recent research suggests that family characteristics are more prominent than neighborhood characteristics in predicting youth outcomes (Brooks-Gunn, Duncan and Aber, 1997). Other researchers focus on how neighborhood resources directly affect adolescents through police presence, schools, and access to constructive leisure-time activities such as parks, libraries, and community centers.

Integrating these perspectives, Connell, Aber and Walker (1994) propose a model of how community dimensions (physical and demographic characteristics, economic opportunity structure, institutional capacities, and social exchange and symbolic processes) directly and indirectly affect adolescent outcomes, including adolescent health. In this model, social mediators (family, peers, and other adults) and developmental processes (learning to be productive, connect, and navigate) are the factors co-linking community dimensions to the desired outcomes. This model serves as the basis for Public/Private Venture's Community Change for Youth Development (CCYD) initiative. The CCYD initiative strives to increase resident and local governance participation in the design and delivery of youth development services. The model follows a systems-reform approach; it attempts to alter the ways community residents and institutions relate to one another.

Implications for Program Development: Three different approaches to defining communities, described by Leventhal, Brooks-Gunn and Kamerman (1997) have implications for how youth development programs fit into communities. These approaches include defining communities as place (geographical or bureaucratic locales), face (shared relationships and social supports), and space (physical and built environments for living, working, and political organizing). How communities are viewed has implications for the type of program developed. For example, "going to scale" with youth development efforts may be impossible without a shift away from thinking about communities as "places," with the attendant ownership by sponsoring agencies. The growing interest in community development initiatives rests on a view of communities as "face," where a community's social capital, or social relationships among people and organizations that facilitate cooperation and mutual support, are at the root of improving the lives of adolescents. Optimally, such an initiatives would seek to improve the "face" of distressed neighborhoods by improving knowledge, understanding, and trust between individuals and groups through communication and a shared vision, common goals, or a plan of action.

This type of reform is extremely difficult at best, as documented by the Annie E. Casey Foundation's report on their New Futures initiative (Center for the Study of Social Policy, 1995; Nelson, 1996). The Casey Foundation learned the following six lessons from their efforts to restructure how mid-size cities plan and deliver services to at-risk youth: (1) much needs to be learned about the nuts and bolts of cross-system change; (2)

affecting change requires a long-term investment; (3) such efforts are not for every community; (4) political will must be present from the outset; (5) frequent and substantive communication and flexibility are vital, as is determination in the face of discouragement; and (6) real change often depends on increases in opportunity and social capital.

Larger Social Context. The larger social context influences adolescents, but is one in which they have little or no direct participation or influence. Examples include health-related role models in the media, policies at parents' place of employment, local ordinances affecting adolescents, such as curfews or cruising laws, and cultural beliefs about adolescents.

Public opinion towards adolescents is not favorable; most Americans look at today's teenagers with misgiving and trepidation. One recent survey showed that almost three-quarters of Americans think young people with poor education, poor job prospects, and problematic values pose a greater danger to the country than any threat from abroad (Princeton Survey Research Associates cited in Farkas and Johnson, 1997). The negative view of adolescents is not limited to disadvantaged youth. When Public Agenda pollsters asked adults what words came to mind when they thought about today's teenagers, 65 percent of those who have regular contact with teenagers used adjectives such as rude, irresponsible, and wild. Only 12 percent used positive descriptors, such as smart or helpful (Farkas and Johnson, 1997). However, the Public Agenda poll also provides some hope. Sixty percent of the general public said that more programs and activities for adolescents after school, in places like community centers, would be a very effective way to help kids. Forty-six percent of the adolescents polled agreed. In addition, Americans saw potential for solutions in the public schools, law enforcement, community groups, religious bodies, charitable activities, and to a lesser extent, government and the media.

Implications for Program Development: Given the current fiscal climate, program developers can benefit from knowing that there is wide spread public support for their efforts. More importantly, programs need to recognize the influence of the larger social context on adolescents, and incorporate ways of dealing with them into their programming. For example, the idea of youth empowerment counters the societal messages described above with positive messages and actions about adolescents' worth and value by encouraging decision making and leadership in program activities, structure, and day-to-day operations.

Contextual Interactions. Bronfenbrenner (1979) cautions against limiting the concept of environment to a single immediate setting containing the subject; what happens at one contextual level can influence what happens at others. There is a growing trend in developmental research to study simultaneously the multiple contexts influencing adolescents' lives. However, such endeavors are typically limited to using variables from

multiple contexts as predictors in regression equations. The Adolescent Health Study typifies this approach. Resnick and his colleagues (1997) use the data to investigate how risk and protective factors in the individual, family, and school contexts relate to adolescents' emotional health, violence, substance use, and sexuality. The authors conclude that the family and school contexts, as well as individual characteristics, are associated with both health-promoting and health-compromising behaviors.

Others argue that the consistency or inconsistency of the norms and values regarding health-related behaviors among the different contexts influence adolescents' behaviors (Jessor and Jessor, 1977; Perry et al., 1993). Thus, health-promoting behaviors are reinforced when the family, school, peer group and media assert the same message. For example, school health campaigns of the 1980s increased their effectiveness by instituting home-based family participation programs aimed at increasing ties between the programs and the home environment (Perry et al., 1988).

Implications for Program Development: Program need to address, or at least recognize, the events and circumstances in other areas of adolescents' lives. Program staff, and researchers, cannot consider the program setting as an environment by itself. One way to recognize how programs are related to other contexts is through encouraging skills to enhance communication with parents or school achievement. However, the message that programs send will be most effective when in congruence with the messages from other contexts. The media, often accused of modeling unhealthy lifestyles through content and advertisement, is one area receiving renewed efforts at promoting health-enhancing behaviors. The recent presidential initiative to launch public service announcements on teenage pregnancy and smoking prevention is an example of such effort.

Development of Youth at Risk: Beating the Odds

Cumulative Risk: Models of development using the constructs of risk and resilience grew out of research showing that certain biological and environmental conditions place youth in jeopardy of diminished well-being (Brooks-Gunn, 1995; Werner, 1995; Haggerty, Garmezy, Rutter and Sherrod, 1994; Luthar and Zigler, 1991; Werner and Smith, 1992). Researchers in this vein began by documenting the factors—circumstances and characteristics—associated statistically with an increased probability of a given behavior. The concept of risk is well-documented; numerous researchers have identified both biological and environmental risk factors for a wide range of outcomes, including problem behaviors such as substance abuse (e.g., Hawkins, Lishner, Catalano, and Howard, 1985), early sexuality and teenage pregnancy (e.g., Brooks-Gunn and Chase-Lansdale, 1995; Brooks-Gunn and Paikoff, 1997), dropping out of high school (e.g., Rumberger, 1983), and mental health outcomes, such as depression or psychopathology (Petersen et al., 1993). Substantial overlap exists among the list of risk factors for different developmental outcomes, especially for problem behaviors (see Dryfoos, 1990).

Generally, biological factors such as having a difficult temperament and being male, individual factors such as self-esteem and attitudes, family factors such as poverty, single parenthood, and poor parent-adolescent relationships, school factors such as a poorly organized school environment and high dropout rate, and neighborhood factors such as poverty and lack of neighborhood resources are considered risk factors for less than optimal development.

Not only does the existence of risk factors affect development, but the number of risk factors appears to contribute to the developmental outcome. For example, Rutter (1979) found that while the presence of one risk factor did not increase a child's risk of developing a psychiatric disorder, the presence of two to three risk factors was associated with a fourfold increase and four or more risk factors lead to a tenfold increase in the chances of developing a disorder (see also Sameroff, Seifer and Bartko, 1997; Klebanov, Brooks-Gunn, McCarton and McCormick, in press).

Implications for Program Development: The similarity among risk factors for different problem behaviors suggest the importance of focusing on multiple outcomes, rather than having a program that focuses on a specific outcome. There is little evidence that adolescents will transfer what is learned in terms of the prevention of one behavior to another, although the same skills may prevent, and the same risk factor contribute to, multiple health-compromising behavior. Similarly, the root of many problem behaviors, whether or not a problem-behavior syndrome exists (e.g., Jessor, in press), signifies the importance of considering a whole host of adolescent environments and outcomes when thinking about program goals. The cumulative nature of risk factors has implications for program effectiveness. The evaluation of an intervention for families of low-birth weight infants found that the intervention was most efficacious for poor children whose families had a fewer number of risk factors than for those with many risk factors (Liaw and Brooks-Gunn, 1995). A large number of risk factors may render it difficult to benefit from the types of supports and services provided by many youth development programs. The level of risk experienced by the participants will impact the type of intervention best suited to their needs; adolescents with higher levels of risk will require more intensive and extensive services than adolescents with lower levels of risk. One program cannot meet the needs of all adolescents in a given community.

Resilience: However, all youth do not respond similarly, or negatively, to risk factors. Researchers conducting longitudinal studies of the effects of biological and environmental risk factors began to notice that some children "beat the odds." Some youth were resilient: They manifested competence despite exposure to multiple risk factors. Longitudinal studies of children at risk, and the findings that some children did not succumb to the risks, launched the study of resiliency (Furstenberg, Brooks-Gunn and Morgan, 1987; Garmezy, 1991, 1993; Rutter, 1985, 1987; Werner, 1993; Werner and

Smith, 1989, 1992). Recently, researchers have devoted increasing attention to answering the question of how some children facing multiple risk conditions survive relatively intact by identifying biological and environmental factors that serve as protective factors. Generally, protective factors represent the opposite end of the continuum from risk factors. Risk factors increase children's vulnerability for poor outcomes while protective factors increase their changes for successful outcomes. Protective factors—characteristics or circumstances that ameliorate the effects of risks—include dispositional characteristics, such as easy-going temperament, skills in social interactions and a sense of humor, family characteristics such as the absence of severe discord and warmth and affection in parent-child relations, school characteristics such as a supportive school environment and neighborhood characteristics such as the availability of social supports (Luthar and Zigler, 1991; Werner, 1995; Zhao, Brooks-Gunn, McLanahan and Singer, in press).

Implications for Program Development: Understanding risk and protective factors is key to our ability to design programs. In fact, positive youth development program developers have seized upon this research emphasizing strengths rather than weaknesses to provide clues to how programs can enhance the protective factors available to at-risk youth. The lists of factors have been documented elsewhere, such as the report from the Office of Substance Abuse Prevention (OSAP) which lists over 100 risk and protective factors for drug use (Gopelrud, 1992). In addition, risk and protective factors served as the basis for the development of the Search Institute's asset-based approach to improving the lives of youth. These risks and assets represent circumstances in all contexts of adolescents' lives.

A few caveats are necessary to temper the current popularity of the notion of risk and protective factors. First, resilience is not a general construct. That is, it does not apply to all of life's domains. Individuals can be resilient to specific risk conditions but vulnerable to others. Second, there are few longitudinal studies examining protective factors (notable exceptions include the work by Werner and Rutter). Most research in this are involves small and select samples, or is based on cross-sectional data. Furthermore, the progress is uneven—most research focuses on preadolescent children and young adults (Luthar and Zigler, 1991). The third, and perhaps largest limitation is the failure to measure differences ***prior*** to the stressful event.

▶ Future Directions for Research and Practice

We view effective youth development programs as a complement to school reform efforts. Successful programs enhance young adolescents' chances for success by helping them develop the skills and competencies necessary for productive adulthood. Many programs promote a positive valuing of school, and strive to improve adolescents' school behavior and performance. Thus, we believe research to advance the development and implementation of effective youth development programs offers one avenue for improving education for early adolescents.

Youth-serving organizations have a long history in the United States. However, the concept of programs geared specifically for youth development briefly entered the public policy arena in the early 1960s, but did not begin to gain prominence until the late 1980s (Takanishi, 1997; McHale and Lerner, 1996; Lerner, 1995). One result of the relative newness of the field is a lack of clarity and consensus of exactly what constitutes a positive youth development program. An abiding concern for the well-being of our nation's youth has spurred a multitude of program services intended to intervene in the lives of adolescents. More and more these program initiatives refer to themselves as youth development programs. *The Directory of American Youth Organizations* (Erickson, 1996) lists 500 national youth-serving groups. Another 17,000 not-for-profit organizations classify themselves as youth development agencies.

Not surprisingly, there is no one model for successful youth development programs. In a recent review of the youth development literature and evaluations, we concluded that despite the relative newness of the field, there is an emerging consensus of what program characteristics and components are necessary for enhancing adolescent development (Roth et al., 1997; Carnegie Council, 1996; 1994; Lerner, 1995; Pittman, 1991). Program characteristics include:

Social support systems. Although not a substitute for a caring parent, programs can bolster failing social support systems by providing family-like care and nurturing, practical services, and firm guidance. Adult mentoring, either formally or informally, offers adolescents a stable, supportive bond with a caring adult. In addition, program participation can provide youth with a sense of being a part of a positive group experience.

Sustained services. Facilitating youth development requires considerable investments of resources and time on the part of the organization. In addition, services need to be sustained over time; organizations need a commitment to stay in the community and to continue offering services.

Broad programs and services. A philosophy that views adolescent development as integrated across domains does not "lose the face of the adolescent." Programs implement this philosophy by offering comprehensive services and supports that recognize the full range of adolescents' needs. This requires moving beyond the traditional prevention efforts. When this is not possible within one organization, multiple programs and cross-sector collaboration are necessary.

Program components include:

Life-skill development. Teaching youth life skills is an important part of comprehensive services. Programs that facilitate the development of interpersonal, decision making and

coping skills help adolescents resist peer and media pressures for health-compromising behaviors, increase self-control, reduce stress and anxiety, create meaningful friendships, and assert themselves without resorting to violence—abilities that will be important throughout their lives.

Community service. Programs that enable youth to contribute to their community provide a tangible way for youth to develop and practice important skills and gain a sense of self-competence. Youth are engaged in leadership and decision making while making a contribution to improving their surroundings.

Constructive use of time. Structured activities, whether athletic or artistic, allow youth to nurture their interests and talents, practice new skills, and gain a sense of personal or group recognition.

However, few program developers or researchers have taken these characteristics and components and operationalized them, or even specified the boundaries (i.e., how comprehensive does a program need to be?) No evaluation efforts have systematically varied program design in order to determine which, or what mix, of elements is necessary. Future research should be undertaken to better understand how to best implement these characteristics and components.

Programs may be more beneficial for some groups than for others. To date, this question has not been adequately addressed. Proponents of positive youth development talk about its universality that all youth need supports and guidance to develop their assets. However, youth development programs, intervening when these supports are missing, tend to target economically disadvantaged youth. Future research should address how youth development programs work for different groups of adolescents (e.g., difference by gender, race/ethnicity, or age), and what set of services work best for different adolescents.

Currently, most youth development programs are not part of schools. However, there is potential for such programs coordinated among youth-serving interests in the community (such as the parks and recreation department) and offering a range of activities for youth in the non-school hours (after school, weekends, and vacations), staffed by a caring adult and structured to maximize students' opportunities for challenging experiences. While there are some such efforts, such as the Community Schools project of the Children's Aid Society, more research into how to best use school and community resources during non-school hours would be worthwhile.

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CHAPTER THREE

Middle Grades Curriculum, Instruction, and Assessment

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▶ INTRODUCTION

The modern middle school reform movement is at a defining juncture. Our expanding understanding of the nuances and complexities of adolescents' cognitive development requires educators to make deep changes in classroom practices and in the system that supports them. This paper explores the kinds of curriculum, instruction, and assessment that are most likely to produce increased learning and achievement at the middle level.

In recent years, the middle school reform movement has focused on structuring schools and classrooms that respond to the social, emotional, physical, and intellectual needs of young adolescents (Lipsitz, 1977, 1980a, 1980b, 1984; Carnegie, 1989; NMSA, 1982). Reformers called for learner-centered middle schools that foster a sense of belonging, confidence, and self-esteem in their students; support positive interaction with adults and peers; encourage students to pursue their interests and explore their newly emerging identities; provide comprehensive services to foster healthy development; and involve families as partners in the education of their children. To reduce the instability and relative anonymity of students disjointedly changing classes five or six times a day, many middle level administrators organized their schools into small houses or clusters, with teams of teachers sharing a common set of students.

As a result, many young adolescents now have safer and more nurturing learning environments, but these environments do not always challenge them to use their minds well. Recent data suggests that middle level reform will not be complete until educators couple concern for young adolescents' social and emotional development with an equal concern for their intellectual development.

Young Adolescents' Performance

In all too many middle level schools across the country, young adolescents do not receive a rigorous curriculum that challenges them to use their minds well. In the early eighties, Rounds and Osaki (1982) found that student work completed in the first year of middle school was less cognitively demanding than the work students completed in the last year of elementary school. Recent data from the Third International Mathematics and Science Study (TIMSS) reveal similar findings. For example, compared to their counterparts in Germany and Japan, American students learn very few new concepts in mathematics between grades 4 and 8. Among the 41 countries participating in the TIMSS research effort, U.S. eighth graders scored below the international average in mathematics (TIMSS, 1997). According to the National Assessment of Educational Progress (NAEP, 1996), young adolescents' performance in various disciplines is equally disheartening:

- *In mathematics*, 79 percent of eighth graders cannot compute with decimals, fractions, and percents; recognize geometric figures; solve simple algebraic equations; or use moderately complex reasoning.

- *In science,* 42 percent of eighth graders cannot understand and apply general information from the life and physical sciences. Eighty-two percent do not have any detailed scientific knowledge, nor can they evaluate the appropriateness of scientific procedures.
- *In reading,* while 61 percent of eighth graders can search for specific information, interrelate ideas, and make generalizations, nearly four in ten cannot.
- *In writing,* while 66 percent of eighth graders can begin to write focused and clear responses to tasks, only 16 percent can write complete responses containing sufficient information.

The statistics are even worse for inner-city youth and for those students who have traditionally been underserved by our nation's schools. Each day the news media report another dismal set of scores for middle level students in large urban school systems with high concentrations of poor students. According to the NAEP data, although achievement gaps are narrowing, white students continue to attain higher scores than either their Hispanic or African American counterparts in mathematics, science, reading, and writing. Moreover, students who are eligible for free and reduced lunch continue to score lower than those not eligible. According to William Schmidt, director of TIMSS, it is these differences in students' classroom experiences, rather than socioeconomic status per se, that are most likely responsible for differences in student performance (TIMSS, 1997). In fact, the single most important factor in accounting for disparities in achievement among U.S. students was the class to which they were assigned (e.g., algebra versus non-algebra math class in the eighth grade).

Yet, despite these findings, we know that young adolescents are capable of deep learning and high achievement. According to Piaget, this is the age at which youngsters first move from "concrete operations" to "formal operations." That is, they develop the ability to reason abstractly in the absence of concrete objects. Moreover, they can reason on the basis of possibilities instead of being limited by direct experiences.

What Recent Research Reveals

As Urdan and Klein (1997) point out, more recent research from three different perspectives (information processing, constructivist, and biological) has extended and modified Piaget's work. According to the information processing theorists (Case, 1991; Siegler, 1991), change in cognitive development does not occur in radical, discrete, and global stages, but rather in gradual, incremental steps. Moreover, cognitive development is domain-specific, so that an eighth grader may have developed considerable quantitative skills, but his or her verbal skills might still be relatively low. Cognitive development is not just a function of maturation, however; it can be facilitated. The more individuals interact with information from a certain domain, and the more they

are trained to use cognitive strategies within that domain, the more expert they will become.

Constructivist theory has had a significant impact on educational practice and understanding of cognitive development (Linn and Songer, 1991). This view of development posits that knowledge is constructed through interaction with other people, information, and material; it is not simply transmitted (Vygotsky 1978; Bandura, 1986). Cognitive development occurs as individuals tap their own prior knowledge, gain experience with new concepts or information, and then develop strategies for organizing that information into mental structures or schemata. Moreover, knowledge is socially constructed or mediated—that is, individuals make meaning of new information as they interact with others. Constructivist theory undergirds the national standards in science and mathematics, many approaches to curriculum reform, and many innovative educational practices at all levels of schooling.

Finally, recent advances in brain research also have contributed substantially to our understanding of cognitive development. For example, we know that in order for meaningful learning to take place, learners need to be exposed to a variety of complex and concrete experiences. Educators and learners need to capitalize on all modes of perception and communication: listening, acting, viewing, talking, reading, valuing, and reflecting (Caine and Caine, 1991). We also have a greater understanding of gender differences in brain functioning that may partially explain different preferences for academic subjects, learning styles, and communication patterns among boys and girls (e.g., Milgram, 1992).

Combining the theory and research from all of these perspectives, we now know that early adolescence is marked by:

- Increased automaticity in basic skills (such as reading and writing) and expanded intellectual capacity, which frees cognitive resources for other purposes
- Greater breadth of content knowledge in a variety of domains
- Increased ability to maintain different representations of knowledge simultaneously, which permits new combinations of that knowledge
- A broader range and more spontaneous use of strategies or procedures for applying or gaining knowledge, such as planning, considering alternatives, and monitoring one's own comprehension
- A greater capacity for exploration and the seeking of knowledge (Keating, 1990).

In addition, young adolescents are capable of thinking about themselves and the world around them in new ways. For the first time they can not only envision what they will be like in the future, but also develop strategic plans for becoming that type of person.

At this stage of development, then, we must pay even greater attention to students' cognitive development. As Lipsitz, Austin, Jackson, and Mizell (1997) point out, we need a new vision of what it means to be a high-performing middle level school. Such schools are characterized by three interrelated key features:

1. *Developmental responsiveness.* Schools meet the developmental needs of young adolescents by creating small learning communities in which stable, close, and mutually respectful relationships support youngsters' intellectual, ethical, social, and emotional growth.
2. *Academic excellence.* Schools challenge all students to use their minds well, providing them with the instruction and support they need to meet rigorous standards of achievement.
3. *Social equity.* Schools have high expectations for all their students and a passionate commitment to helping each child produce work of high quality, regardless of race, class, gender, or ability.

Purpose and Structure of This Paper

This paper explores the kinds of curriculum and instruction that are likely to produce increased learning and achievement at the middle level. It is organized around five key questions or challenges facing middle level educators today:

1. What is the relationship between the standards movement and middle level reform? Will the push for national and state standards accelerate the modern middle level movement or, as some fear, cause a retrenchment to the traditional junior high model?
2. What are the advantages and disadvantages of interdisciplinary versus subject-specific curriculum and instruction at the middle level? Is there a way to balance these approaches so that they both support increased learning and development?
3. What kinds of instructional strategies are best suited to the unique developmental challenges of early adolescence? How can middle level educators take advantage of new advances in technology to support teaching and learning at the middle level?
4. How can middle level educators address the wide diversity among their students, so that all students have the opportunity to learn and achieve at high levels? What are useful strategies for dealing with the tremendous intra- and interindividual variability at this stage of development?
5. What kinds of assessments are likely to produce increased learning and achievement at the middle level?

A basic tenet of this paper is that changes in classroom practice require concomitant

changes in classroom structure, school organization, and parental and community involvement. Throughout this paper, we discuss the role that these factors play in facilitating or impeding effective practice. Questions for further consideration are included at the end of each section.

▶ 1. What is the Relationship Between Standards and Middle Level Reform?

Engaging in standards-based reform does not automatically guarantee improved student performance, but the strategy of adopting and using standards to guide change can add value to the already positive features of middle school life.
Wheelock, 1995, p. 41

The intent of national content and performance standards is to bolster what we expect our middle level students to know and be able to do upon completion of eighth grade. In most cases, state and district standards are aligned with the national standards. The National Board for Professional Teaching Standards (NBPTS) has also established standards for teachers that reflect the kind of teaching and learning called for in the standards for students.

Potential Benefits of Standards for Teaching, Learning, Assessment, and Systemic School Reform

Wheelock (1995) makes a compelling case for adopting and using such standards to shape curriculum, instruction, and assessment at the middle level. As she points out, standards have six potential benefits.

First, and perhaps most important, *standards establish clear benchmarks for student learning and performance.* Standards provide a clear path for administrators and teachers so that they know what they may enable their students to perform "at standard." When crafted well, they highlight desired learning on two key dimensions:

1. Knowledge of the important and enduring concepts (sometimes referred to as the big ideas or essential questions) in the discipline
2. The cognitive processes that can make sense of that knowledge—that is, thinking skills that enable students to use the facts and concepts in these disciplines to learn for understanding (Wheelock, 1996).

Second, these *standards emphasize the importance of higher-order thinking in early adolescence.* For example, the National Council of Teachers of Mathematics (NCTM) standards emphasize the importance of young adolescents' seeking, evaluating, and using quantitative and spatial information in solving problems and making decisions (1989). They also encourage students to clarify their thinking and report their observations both orally and in writing. In science, the National Research Council has called for higher-order thinking skills, such as recognizing the relationship between explanation and evidence and using background knowledge to design investigations, make observations, and interpret data. And, in English/language arts, the National Council of Teachers of English (NCTE) encourages developing students' interaction

with text so they generate ideas, pose problems, and analyze information in order to create and communicate knowledge.

Third, *learning for understanding requires teaching strategies that go far beyond the mere transmission of knowledge: it requires authentic instruction.* Newmann and Wehlage (1995) outline three key elements of authentic classroom instruction: (1) construction of knowledge, (2) disciplined inquiry, and (3) value beyond school. When students construct knowledge, they engage in higher-order thinking by organizing, synthesizing, interpreting, explaining, and evaluating information and ideas. Disciplined inquiry requires building on and extending an established knowledge base and demonstrating in-depth understanding through elaborated conversation, products, or performances. For instruction to have value beyond school, it must have a connection to the world beyond the classroom. These key elements of authentic pedagogy resonate with the eight principles of learning identified by Lauren Resnick and others at the Learning Research and Development Center (LRDC), one of the original developers of the New Standards (Rothman, 1996; Resnick, 1995). For example, "academic rigor in a thinking curriculum," "students as knowledge producers," and "accountable talk" are three principles that mirror Newmann and Wehlage's key elements of authentic pedagogy.

Fourth, *standards set high expectations for all students.* In this country, middle level students are often tracked by ability group, with each group studying different material. A steady stream of research documents the diluting of the curriculum for students who are poor, have limited English proficiency, or are of color. For example, eighth graders who are white and from middle-class families are far more likely to have access to gatekeeping courses that prepare them for advanced learning in science and mathematics than their African American, Latino, Native American, and low-income counterparts. The latter are more than twice as likely to be in remedial courses than their white and/or middle-income peers (Haycock and Duany, 1991). If we want to live up to the promise of our democratic society, we must provide all students with the knowledge and skills they need to pursue their dreams. Adoption of standards ensures that all students have access to a rigorous and challenging curriculum, instead of one that limits their academic and career options at an early age.

Fifth, when designed well, *standards can serve as the basis for high-quality performance assessments* that provide a range of information on how schools are doing and what individual students know and are able to do. These data can be used to guide instruction, identify additional supports that students may need for learning, and evaluate school and classroom practices (Darling-Hammond and Falk, 1997, p. 191).

Sixth, *standards not only influence curriculum, instruction, and assessment at the classroom level, they can also serve as catalysts for school restructuring and systemic reform.* For

example, in order to meet standards, educators may need to reexamine the organization of the school. They may decide to eliminate lower tracks that limit students' access to rigorous curriculum, or introduce multi-age grouping that allows students different amounts of time to meet the standard. Standards also demand new forms of social, emotional, and academic support for students who need extra help to meet them. Finally, standards can help schools and school districts work as systems whose structures and processes are guided by coherent, consistent, publicly articulated goals.

Pitfalls of Using Standards at the Middle Level

While standards have promise for helping middle level educators rethink curriculum, teaching, and assessment practices, they have potential pitfalls as well. One of the biggest concerns is that rather than helping all students learn and achieve at high levels, standards may actually result in more sorting and tracking of students, thereby setting up roadblocks and limiting future opportunities for those young adolescents who, without support, cannot reach the standards.

Many states and local school systems are setting forth severe sanctions for failure to perform at standard, without providing students with the necessary opportunities and supports to ensure their success. As Darling-Hammond and Falk (1997) point out, if such schools don't engage in major rethinking about schooling and teaching practices, standards will fall short. Without significant changes in school organization, curriculum, teaching practices, and special supports for student learning, one cannot expect all students to achieve at standard and should not penalize them for their failure to do so.

Noddings (1997) shares this concern. She calls for greater attention to opportunity-to-learn standards that define the availability of programs, staff, and other resources that schools, districts, and states provide so that students are able to meet challenging content and performance standards. In her words,

> *"It is disheartening that so many adults are willing to prescribe standards that children must meet and yet are so unwilling to dedicate themselves and their resources to meet standards for school delivery . . . Children are expected to meet high standards for learning, but it is not clear how poor children and their teachers will meet this expectation. Perhaps the new slogan will be 'just do it!'"* (p. 185-6).

Elmore (1996) suggests that the current focus on education policy and organization changes will not alter the static condition of students' academic performance until professional development for teachers and administrators becomes the focus of education reform efforts. "Most of the reforms that states and localities have tried thus far have focused on changing the guidance schools receive on what students should be taught (content standards), changing the structures and processes by which schools are held accountable (student performance standards, assessments, rewards, and penalties),

and changing the governance structures by which accountability is defined (site-based management) (p. 3)." He argues that professional development is the key element to bridge policy and changes in practice that impact student performance.

Still other critics worry that standards threaten the basic principles that are at the very core of the modern middle level movement. For example, Reigluth (1997) expresses concern that standards may mean standardization, rather than customization. This overarching concern, which is shared by many middle level educators, has several different facets:

- In the attempt to bring everyone to standard, we may design minimum standards that ensure all students acquire competence in basic skills. Rather than promoting inquiry and deep understanding of important concepts and themes, as intended, standards may actually result in narrow, test-driven instruction.
- If standards focus solely on teaching and learning in the core content areas, they may take attention away from other important goals traditionally associated with middle level education, including career exploration, community service, arts education, and enrichment.
- Standards may ignore the reality of individual differences among middle-grades students. What may be challenging for some may be easy for others. Thus, uniform standards may not accelerate performance for all students, but rather slow the progress of those who are most able to proceed at a higher pace.
- Standards may limit young adolescents' ability to choose what they learn and to pursue their own interests, thereby making learning less personally meaningful and relevant.
- Adopting national or state standards threatens the professionalism of middle level teachers and abrogates the local community's responsibility for educational goal-setting. Teachers may feel compelled to teach to the standards, regardless of whether they, their students, or parents believe the standards are important.
- Finally many educators and health professionals argue that poor student health, a major cause of underachievement at the middle level, must be addressed as part of any reform. "If schools do not deal with children's health by design, they deal with it by default," according to a new report (Marx, Wooley, and Northrop, 1998).

Questions to Consider

In sum, while standards have tremendous potential to enhance middle level curriculum, instruction, and assessment, much depends on the nature of such standards, the use to which they are put, and whether resources exist to support them. Applied carefully,

standards can promote changes in classroom practice that enhance young adolescents' learning and development. Otherwise, they run the risk of reinforcing the status quo or, worse yet, undoing much of the progress that has been made thus far in middle level reform. A number of important research questions are yet to be answered:

- Are middle level schools using standards to guide curriculum and instruction in the various content areas? What standards are being used-national, state, or local?
- Do these standards encourage critical thinking and problem solving or mere acquisition of facts and rote skills? To what extent do they foster authentic pedagogy versus learning out of context? To what extent do they limit the school's ability to pursue nonacademic goals? With what consequences?
- Are the standards widely understood by middle level administrators, teachers, students, and parents? What process, if any, has been used to build local awareness, ownership, and support? To what extent do these standards guide curriculum, instruction, and assessment at the middle level?
- Are all students, including those with disabilities and those with limited English proficiency, expected to perform at standard? If so, what opportunities do they have to meet the standards? Do middle level schools provide students with additional time, support services, or alternative learning strategies to help them learn and achieve at high levels?
- What kinds of professional development opportunities do districts and schools provide teachers so that they have the knowledge and skills they need to teach to these standards? What preservice programs are necessary to support standards-based reform at the middle level?
- What incentives and sanctions are used to encourage achievement of the standards? What are the intended/unintended consequences of such sanctions? If sanctions are focused on students, what supports are provided to ensure that every student has the opportunity to meet the standards before the sanctions are employed?
- What other factors facilitate or impede the implementation of standards at the system, school, or classroom level? District or school policies governing curriculum, instruction, student assignment, grading, and assessment? Administrative leadership and organizational support at the school level? Teacher knowledge and skill? Parent and community support?

▶ 2. Interdisciplinary Versus Discipline-Specific Curriculum

Assuming that schools have set forth what they want their middle level students to know and be able to do, they must align their curriculum and instruction with those standards and assessments. One of the most heated controversies currently taking place at the middle level is that of interdisciplinary versus discipline-based curriculum in helping students meet high standards.

For many years, middle level advocates stressed the importance of theme-based, interdisciplinary instruction in fostering student understanding of overarching themes and important concepts. Proponents believe that by coordinating instruction across disciplines, schools are better able to take advantage of young adolescents' increasing capacity to make the connections among the disciplines. At the same time, a growing number of middle level educators are beginning to question this mantra in light of standards and performance assessments that are subject specific. In this section, we describe the benefits and challenges involved in implementing each approach. Note that while some authors distinguish between the terms "discipline" and "subject," we use them interchangeably here.

A. Interdisciplinary Curriculum

An interdisciplinary curriculum speaks to young adolescents' need and desire to connect information. It helps them bring personal and social concerns into their learning, develop a unity and coherence to their academic studies, and make meaning of their learning experiences. At the middle level, a typical approach is for a team of teachers from each of the core subject areas to work together to develop and deliver curriculum (we are not referring to the integration of different concepts within a single core subject area.)

Interdisciplinary instruction is generally organized around a central theme that is sometimes cast as an issue, problem, or "essential question" (Sizer, 1984). The theme integrates content, perspectives, methodology, and language from more than one discipline (Jacobs, 1989; Beane, 1990). A good interdisciplinary theme is generative: it meaningfully connects diverse topics and leads students to develop deep understandings (Perkins and Blythe 1994; Zorfass [in press]). Learning for understanding, as defined by these authors, involves "being able to do a variety of thought-demanding things with a topic-explaining, finding evidence and examples, generalizing, applying, analogizing, and representing the topic in a new way" (Zorfass, p. 4).

At the middle level, Beane (1990) recommends such themes as independence or justice that have both personal relevance and social significance. In well-designed interdisciplinary units, carefully crafted overarching concepts anchor, extend, and elaborate a central theme. For example, a unit on human relationships might involve studying the role of the peer group in influencing attitudes and behaviors, how societies and cultures are formed, the concept of global interdependence, and/or the impact of technology on communication and personal relationships (Beane, 1990, p. 45).

Benefits of Interdisciplinary Instruction

Proponents of interdisciplinary instruction argue that it responds to the cognitive, moral, psycho/social, and physical development of young adolescents. As they become more aware of the world around them, young adolescents are often drawn to moral and social

issues. Strong interdisciplinary themes not only capture this interest, but also become the springboard for construction of new knowledge. In addition, interdisciplinary instruction lends itself to developmentally appropriate pedagogy, providing youngsters with opportunities for active engagement in their own learning, working in collaboration with others, and carrying out long-term projects that involve inquiry-based learning, problem solving, application, and reflection (Beane, 1995; Zorfass and Copel, 1995; Vars, 1969). Moreover, by their very nature, interdisciplinary units provide alternative avenues for exploration, multiple perspectives, and different points of entry, thereby drawing on students' diverse learning styles and multiple intelligences.

Teachers also benefit from interdisciplinary instruction. Teachers find themselves growing as professionals as they work collaboratively to design and implement interdisciplinary units. By sharing responsibility for curriculum, instruction, and assessment, they deepen their own understanding of students and are better able to meet students' diverse needs. Teaming can also foster changes in school organization and structure; teachers often want to break out of the confines of 45-minute periods and pre-set class sizes. To accommodate interdisciplinary curriculum and instruction, schools have experimented with double periods, block scheduling, and other innovative approaches to scheduling.

Finally, an exciting facet of interdisciplinary instruction is that it fosters connections to families and the wider community. The exploration of generative themes often demands seeking information outside the school. For example, one team in Indianapolis, which was carrying out an interdisciplinary unit on natural disasters, interviewed parents who had survived disasters, invited speakers from the fire and police departments, and arranged for students to provide community service at the local Red Cross facility.

Challenges of Interdisciplinary Instruction

In too many classrooms however, interdisciplinary instruction is simply a force fit between the theme of the interdisciplinary unit and the ordinary content of teachers' subject-specific classes. James Beane, an advocate of interdisciplinary instruction, expresses concern that if middle level teachers "are 'nice' to early adolescents, if they use such methods as cooperative learning, if they engage students in projects, and if they keep a close eye on how individual learners are doing, then they can get away with almost any content" (1990, p. 22).

One condition for success with the interdisciplinary model, as with other forms of instruction, is the content knowledge and instructional skills of teachers. In fact, interdisciplinary instruction requires teachers to have more, not less, depth of knowledge within and across disciplines. Every teacher on an interdisciplinary team needs to have command of his or her own discipline and experience with inquiry-based learning in

order to contribute to the development of worthwhile, generative themes and overarching concepts. This deep subject knowledge facilitates the teacher's ability to guide student exploration and knowledge construction around big, crosscutting ideas and to assess student learning. Thus, rather than lowering the bar on teachers' content knowledge, interdisciplinary instruction ups the ante.

Teachers also must collaborate with one another for interdisciplinary curriculum and instruction to work well. Interdisciplinary team work has often been likened to a marriage (Howard, 1993). Just like any successful marriage, when teachers work together as a team to meet student needs, they must have a shared vision and purpose, be able to communicate effectively, trust each other to assume responsibilities, generate and implement solutions to problems, and learn from their experiences. For such collaboration to occur, the school organization must provide teachers with common planning time, incentives, training, and on-going support.

B. Departmentalization of Subject-Area Content

Many middle level advocates are deeply concerned that by asking teachers to maintain the integrity of each academic discipline, the standards movement may result in an unwanted return to departmentalization of subject-area content. Others, however, cite potential benefits.

Benefits of Departmentalization

Much of the new curriculum aligned with the standards, especially in science and mathematics, is conceptually based and designed sequentially. These new curriculum typically call for more in-depth study within the subject area. At the same time, some actually encourage greater integration of concepts and themes within a particular academic discipline. For example, in science the curriculum may integrate earth, life, and physical sciences, while in mathematics it may connect algebra, geometry, and probability. Many encompass constructivist approaches to teaching and learning, including more dialogue, active engagement, cooperative learning, and problem solving.

Proponents of discipline-based curriculum argue that even teaching within a single discipline poses an enormous challenge. Teachers need to know the subject matter and how to teach it, "how to select, represent, and organize information, concepts, and procedures so the subject matter knowledge can be transferred into teaching for understanding" (Cohen and McLaughlin, 1993, p. 3). Yet, many middle level science and math teachers are asked to teach out of their certification area, in a subject for which they are ill-equipped and often uncomfortable. Others have not been brought up-to-date with the new demands (e.g., for higher-order thinking and problem solving) posed by the national and state content and performance standards. Without training in both the content and the processes of the discipline, teachers are less likely to develop a

repertoire of strategies associated with good instruction for students with diverse abilities, let alone make connections to other disciplines.

Challenges of Departmentalization

Departmentalization of subject-area content does not obviate the need for middle level teachers to have greater content-specific knowledge and content-specific pedagogical strategies. In California, an analysis of student assessment scores in math found that the more teachers' professional development was rooted in mathematics and specific curriculum, and the more time teachers had to learn, the higher students performed on the mathematics assessment (after accounting for social class and school conditions) (Cohen and Hill, 1997). According to a number of research studies, however, teachers tend not to sign up for professional development that would enhance their own content knowledge. They focus instead on courses that deal with innovative pedagogy, classroom management, or other aspects of teaching (Cohen and Hill, 1997). Absent strong pressure for teachers to deepen their content knowledge, this predilection will continue.

In addition, school and district administrators need to provide multiple support mechanisms and strategies to help teachers implement new curriculum that is subject-specific. These include providing appropriate professional development opportunities, adopting compatible student assessment instruments, conducting supportive classroom observations, and ensuring that parents and the local community understand the importance of meaningful content-area knowledge. For example, if administrators view mathematics primarily as a set of facts and procedures, they will likely give in to parental pressure to teach math facts by rote. If administrators see mathematics as a complex set of ideas that unfold over time, they will likely be inclined to help reeducate parents (Nelson, 1997).

The subject-matter emphasis of standards also raises questions about the organization of middle level schools. Over the last several years, the influence of subject-area departments has waned, as teachers' primary affiliation has been the interdisciplinary team. In some middle level schools, departments are now playing a greater role, establishing a context of high academic standards and promoting more thoughtful responses to the demands for standards-driven curriculum and instruction (Berns and Koency, 1997).

Questions to Consider

Studies comparing departmentalization to interdisciplinary organization of classrooms have found that the integrative model provides greater learning opportunities for students (Irvin, 1997). In fact, after reviewing 40 years of research, Vars (1997) concludes that students in interdisciplinary programs do as well, and often better, on standardized achievement tests than students in separate subject-area programs (p. 3). At the same time, this research must be read carefully, since it contains differences in terminology, design, method, and model of instruction. In addition, since districts may fail to report

negative results on innovative programs, conclusions about the benefits of the interdisciplinary model may be biased.

Assuming that both interdisciplinary teaming and academic departments are important in the effort to improve learning and development for young adolescents, then middle level schools will need to find a balance between the two. Some schools are already using a matrix structure, in which cross-disciplinary teams are coupled with vertical departmental meetings across grade levels. Others are focusing primarily on subject-specific curriculum and instruction but using interdisciplinary units once or twice a year to address overarching themes of importance, provide students with an extended learning experience, and encourage greater collaboration among team members. Still others rely heavily on discipline-specific curriculum and instruction but make links with other disciplines wherever possible.

The following questions are worthy of consideration:

- What are the effects of interdisciplinary and discipline-specific curriculum on students' learning and development?
- How can educators effectively balance the two approaches so that they not only attend to the developmental needs of young adolescents but also promote academic excellence?
- In what ways can subject-specific standards inform the development or implementation of interdisciplinary curriculum? Are any schools designing interdisciplinary units that draw together the core ideas within the national standards? Similarly, how can subject-specific curriculum embody the concepts and skills called for in the New Standards? In what ways can we enrich subject-specific instruction by making connections with other subject areas?
- What new roles can academic departments play in middle schools? How will these interact with interdisciplinary grade-level teams? Will a return to departmentalization impede the use of houses or teams that create smaller, more personalized environments for teaching and learning?
- What are the most effective approaches for deepening teachers' knowledge of subject matter? What type of professional development and teacher supports are needed to bring about effective interdisciplinary instruction?
- What is the role of preservice education in developing teachers' content knowledge? Does preservice training prepare teachers for interdisciplinary work? What effective models of preservice education exist in colleges and universities across the nation? Can middle level schools demand improvements in teacher preparation, licensing, and induction?

▶ 3. Effective Instructional Strategies for Young Adolescents

As Urdan and Klein (1997) point out, "There is a disjunction between the teaching methods and materials found in many middle level schools and the cognitive developmental advances that occur during early adolescence" (p. 5). A similar disconnect exists between the new type of instruction called for in the national standards and the type of instruction that is found in many middle level classrooms. Many U.S. teachers implement the NCTM recommendations infrequently, and their students have only limited experience with higher-order learning in mathematics (TIMSS, 1997). ETS researchers found similar results: the emphasis in most eighth grade classrooms is on learning facts, skills, and procedures. There is heavy reliance on textbooks and worksheets, and are rarely asked to write reports, discuss mathematical problems, or provide in-depth explanations of their work (Lindquist, Dossey, & Mullis, ND).

To enhance middle level learning and achievement, educators must reexamine current pedagogy, taking into account young adolescents' unique strengths and challenges. The remainder of this section will discuss three instructional strategies that are especially appropriate for young adolescents: applied learning, cooperative learning, and innovative uses of computer technology. Applied learning speaks to young adolescents' need to make personal meaning out of their school experiences (Ames and Miller, 1994, p. 14). Cooperative learning addresses both the social and intellectual needs of students by requiring small groups of students to work productively and positively together on a group product or task. Finally, new advances in computer technology afford middle level students an opportunity to become more independent learners, learn at their own pace, and build a virtual learning community that spans both time and space.

A. Applied Learning

As they develop the ability to think abstractly, young adolescents are able to engage in longer, more involved projects, hypothesis testing, and experimentation. As they take more responsibility for their own learning and establish their own identities, they welcome opportunities for active, inquiry-based learning that allows them to pose and answer questions of personal interest. As they learn more about the real world around them, they become eager for learning experiences beyond the classroom. For all these reasons, applied learning is an especially important feature of middle level instruction.

What Is Applied Learning?

"Applied learning" means different things to different people. To many educators, applied learning refers to learning to apply thinking skills and learning to learn, as in Rogoff's (1990) Apprenticeship in Thinking. To some specialty teachers, it refers to laboratory or shop learning, internships, and cooperative or work-based learning experiences. To others, this view of applied learning is seen as anti-intellectual and pertaining to a narrow set of isolated activities associated with preparation for work. Many favor terms

suggesting broader, deeper, and more rigorous intellectual activity (e.g., contextual learning or situated cognition) (Kirshner and Whitson, 1997). For purposes of this paper, applied learning refers to *experiential, hands-on, active learning that integrates deep academic and rigorous technical content in problems and projects that connect school to life and work.*

Applied learning, under this broad interpretation, has become part of the fabric of our nation's standards movement. For example, the New Standards contain guidelines for applied learning. The focus on processes in mathematics (Matthews, 1995) and in the new National Science Education Standards (National Research Council, 1996) supports applied learning as students are asked to extend and apply academic content to new situations. The Secretary's Commission on Achieving Necessary Skills (SCANS, 1991) identified a set of competencies that form the core of knowledge and skills needed to enter American workplaces, and these have become the basis for many state and local certificates of mastery. Applied learning standards now include problem-solving tools, techniques for communication, information technology, learning and self-management, and working with others.

A rich example may help illustrate what we mean by applied learning at the middle level. In an effort to provide middle level students with opportunities to learn about engineering design through science, mathematics, and technology education, Education Development Center, Inc. (EDC) and the Society of Automotive Engineers (SAE) developed an innovative new curriculum titled "A World of Motion II: The Design Experience," which challenges students to solve problems by developing new models or prototypes. Working in design teams, students gather information, design solutions, build and test prototypes, and present models to address these challenges. The experience culminates in a formal presentation of the design solutions. Classroom teachers, volunteers from the SAE's membership (which consists of 60,000 engineers in transportation-related fields), and participating corporations provide their expertise in science, mathematics, and engineering, linking the school with the community as students engage in the design process.

Benefits of Applied Learning

Applied learning holds great promise for middle level schools because it supports the cognitive, social, physical, and motivational needs of young adolescents. In the cognitive domain, applied learning provides students with multiple opportunities to construct, deepen, and extend their knowledge by engaging them with new types of information, tools, and materials. In addition to promoting deep learning of academic concepts (Collins et al., 1989; Newmann and Wehlage, 1995), applied learning encourages new ways of thinking and be-having. Moreover, students have more control over their learning-choosing their own themes, problems, resources, and activities. Applied learning

also provides opportunities to explore new social relationships with adults and peers. It is active, and it often involves students in physical activities that develop physical skills. Finally, students are more motivated and learn more effectively when engaged in activities that have clear transferability to the real world than when engaged in traditional, decontextualized, academic tasks (Herman et al., 1992).

Applied learning helps students explore careers and assess their own interests and abilities. Thus, applied learning activities help students "envision what they will be like in the future" and "develop strategic plans for either becoming this kind of person or not" (Urdan and Klein, 1997, p. 4). This is especially important at the middle level, when young adolescents are just beginning to imagine their future selves. We know that minimal differences are found between eighth grade males and females on academic expectations and career goals (Post et al., 1996), and that these differences become greater in later grades. Differences in expectations associated with race and poverty also become exacerbated as children grow older. Intervention at this stage may help youngsters avoid traditional gender and racial stereotyping that limits their future aspirations.

Finally, one form of applied learning-service learning-helps prepare students not just for the world of work, but for responsible citizenship. Service learning is defined as "experience in the community which connects to the school curriculum and requires students to reflect on the meaning of the service performed, both personally and in the context of community" (W. K. Kellogg Foundation, 1998). When done well, service learning not only supports young adolescents' academic learning, personal growth, and career preparation skills, but also fosters a sense of civic responsibility. As Howe (1997) points out, service learning "has more to do with becoming a mature adult than any academic exercise, and it is at least the equal of academic effort in building an understanding of others, the capacity to be an effective citizen and the promise of leading a balanced life in an incredibly complex world" (p. 5). Of utmost importance, service learning helps middle level students transform their view of themselves from unproductive takers to active, positive contributors to their community.

Challenges of Applied Learning

Barriers to this type of learning mirror other barriers to reform in middle level schools. They include time constraints, accountability for academic standards, traditional assessment systems, lack of appropriate curriculum resources, teachers' fear that they will lose control over the classroom, and lack of consensus over the definition of excellence in education (Parnell, 1996). Management of time, space, equipment, manipulatives, and multiple activities requires teachers to develop new skills and administrators to provide organization. Applied learning also demands flexibility in scheduling, with longer periods in which to work on projects and teaming of teachers across content areas.

Linking applied learning to community assets and technical initiatives also requires

teachers who are enabled to work outside the normal boundaries of the school building and traditional chain of command. It requires a new set of relationships, which often means crossing language and turf boundaries. Community-based learning also poses special challenges, such as transportation and, in some cases, liability coverage for students participating in field trips and off-site learning. Finally, integrating applied learning into the middle level curriculum requires a rethinking of traditional teacher/student roles and relationships, as well as new approaches to assessment.

All of these challenges imply changes in school organization, as well as increased investments in professional development. They also demand increased parental engagement, or, at a minimum, parental support for out-of-school learning experiences. Yet, in spite of these barriers, several excellent examples of applied learning can be found at the national, regional and local levels, in both academic and technical settings. For example, the Blue-bonnet Applied Learning Academy in Fort Worth, Texas (Miller, 1995), The Foxfire Experiment (Phillips, 1991), and the San Diego Public Schools' Triton Project (http://edtech.sandi.net/triton). All provide students with applied learning experiences as defined here. These and other exciting programs across the country suggest that applied learning is possible at the middle level and can be nestled in both school and community settings.

Questions to Consider

The potential benefits of applied learning on the future lives of middle level students point to a number of critical questions that must be addressed:

- How can we arrive at a definition of applied learning that is accepted and championed by both academic and technical educators? What does the best of applied learning in middle level schools look like? What is the appropriate balance between applied learning and other types of learning in middle level schools?
- What impact does applied learning have on young adolescents' achievement as measured in traditional and nontraditional ways, including their ability to think and process information and to solve complex problems? What is the impact of applied learning on students' social-emotional development, including their motivation to learn, engagement in course work, self-esteem, leadership skills, and ability to have meaningful exchanges with peers and adults?
- What are the long-term effects of applied learning experiences in the middle grades? Are students better able to think, solve problems, or master technical concepts or academic content? Do they make different educational and career choices? Are the effects of applied learning at the middle level cumulative as students participate in applied learning experiences throughout high school and college? How might high schools have to change?

- What are the strategies and models that can be used to engage all students in successful applied learning activities? What kind of professional development and organizational support are needed for teachers? How can we ensure that the opportunities for applied leaning are equitable for both males and females, and for traditionally underrepresented groups? Can applied learning experiences in the middle grades help engage and retain young women and minorities in technology and higher-level mathematics and science courses?
- What organizational supports are needed to facilitate applied learning in middle level schools? For example, what additional resources are needed (space, equipment, transportation, professional development)? What community assets can be brought to bear?

B. Cooperative Learning

No grouping designs are better suited to the social and intellectual needs of young adolescents than the assorted strategies generally referred to as cooperative groups (Slavin, 1986; Johnson and Johnson, 1988). "Their common purpose is to promote independent learning by establishing conditions that require small groups of students to work productively and positively together, face to face, sharing individual responsibility for a group product" (Stevenson, 1992, p. 227). Since young adolescents are characterized by a high need for social acceptance and peer support, this instructional strategy seems especially appropriate at the middle level. In fact, *Turning Points* (Carnegie Corporation, 1989) recommended cooperative learning as an approach that would ensure young adolescents' success in every aspect of the middle level program, regardless of previous achievement. The extensive research on cooperative learning points persuasively to positive effects on achievement (Slavin, 1989a).

Benefits of Cooperative Learning

Cooperative learning's first champion, John Dewey, stressed the social aspects of learning, focusing on preparing students to become problem solvers in a democratic society. He advocated for classrooms that mirrored the living process of democracy itself (Dyk-huizen, 1973). In *Turning Points*, Dewey's ideas were echoed once again: "Cooperative learning also requires students to get to know and work with classmates of different ethnic, racial, and cultural backgrounds, setting the stage for requirements of adult work life and for citizenship in a multicultural society" (Carnegie, 1989, p. 50). Schools in the 21st century will continue to be the principal institutions for integration. Classrooms, then, need to create cooperative conditions to increase interpersonal understanding and tolerance.

Research suggests a positive relationship between productive social interactions and academic learning, as well. For example, Piaget found that when students interact with one another they feel a need to be consistent in their communication, think about what

they have said, and reflect on how it is understood by others in a group. As students are challenged to clarify their thoughts, these interactions lead to a cognitive restructuring that expands their thinking. Moreover, in cooperative groups students have a better chance of getting the help they need because they can call upon their group members as well as the teacher. And, because everyone has responsibility for the collective work product, their involvement in the task is enhanced.

Slavin (1990) reports that the most important psychological outcome of cooperative learning is its effect on student self-esteem. He contends that the two most important factors contributing to student self-esteem are the feeling of being well-liked by peers and a feeling of academic success. Because cooperative learning encourages positive interaction with peers and mutual support in completing academic tasks, these strategies provide middle level students with a sense of accomplishment and worth. In addition, Slavin found that students engaged in cooperative learning liked school and the subject being taught more than when they were engaged in traditional learning situations. Not surprisingly, cooperative learning also improved their time-on-task and attendance.

Cooperative learning has benefits for teachers as well as students. When such groups are functioning well, the teachers' role shifts from being the center of learning to functioning more as a coach. Teachers can move among the groups, giving individual help as needed, clarifying issues, answering questions, offering encouragement, and giving positive feedback. When a group is struggling, the teacher is able to more easily give assistance.

Challenges of Cooperative Learning

As Stevenson (1992) points out, successful implementation of cooperative learning is very much dependent on thorough teacher preparation. The reorientation from a classroom structure that focuses on whole-class activities or individual competition to one that emphasizes peer collaboration requires time and experience. Teachers must be taught the dynamics of when and how to use these strategies if they are to be used effectively.

Professional development must focus on the two critical elements that must be present for cooperative learning groups to produce increased student achievement: (1) positive interdependence and (2) individual accountability. Just asking students to work together does not guarantee that they will take responsibility for each other's learning; students must work together to earn rewards for group success. At the same time, because some students may sit back and let others do the work, teachers need to hold each member of the group individually responsible for the overall success of the group. While these two attributes are difficult to implement, they are critical to ensuring academic gains (Slavin, 1989a).

Questions to Consider

We must continue to examine the role of cooperative learning in promoting high standards of achievement for young adolescents. Among the questions that need to be

answered are these:

- How extensive is cooperative learning in middle level classrooms? What is the nature of cooperative learning in these classrooms? Do all students in these groups share responsibility for the group's success? Do students also have individual responsibility for their own learning?
- How do teachers assign students to cooperative learning groups? Do they make sure that such groups are balanced by race, ethnicity, ability, and gender? Does each student have a chance to contribute his/or her own expertise to the group?
- What is the impact of cooperative learning on student learning and achievement, especially on student achievement of high academic standards? Are there differences associated with gender, race, or SES?
- What types of professional development and organizational supports are essential for cooperative learning to take hold?

C. Computer Technology in the Middle Grades

Benefits of Computer Technology

President Clinton's Technology Literacy Challenge, which calls for enhanced use of technology for teaching and learning, builds upon four pillars:

1. Modern computers and learning devices will be accessible to every student.
2. Classrooms will be connected to one another and to the outside world.
3. Educational software will be an integral part of the curriculum—and as engaging as the best video game.
4. Teachers will be ready to use and teach with technology.

The increased availability of multimedia computers, Internet access, and other information and communication technologies—ranging from advanced calculators to video conferencing—opens exciting new possibilities for middle level curriculum and instruction. With such programs as the Universal Service Fund or "e-rate," more than two-billion dollars per year will be available to support telecommunications and Internet access in schools and libraries. At the same time, several U.S. Department of Education programs support professional development, curriculum reform, and research efforts focused upon the impact of technology.

The pace of new developments is so rapid that we can only imagine the possibilities and how they can benefit the education of middle level students. As a framework for examining the uses of technology at the middle level, we can identify five categories of activities that are important in the middle grades and how technology can serve each one.

Communicating. One goal of middle level education is to help students learn to communicate effectively and develop positive connections within their communities and with people in other places. Computer technology can support such communication. For example, the traditional use of pen-pals to link students with age-mates in other countries becomes even more powerful and engaging with e-mail, since messages can be exchanged almost instantly.

Electronic communication also opens up possibilities for online mentoring. For example, in EDC's Telementoring Young Women in Engineering and Computing project (funded by NSF), women engineers and scientists provide online mentoring for high school girls in-terested in these fields. Other mentoring relationships are facilitated by the Electronic Emissary project organized by Judi Harris at the University of Texas (http://www.tapr.org/emissary/ info.html).

Collaborating. Computer technology can support the goal of students working collaboratively in many ways. Databases and other technological tools provide ways for students to gather and organize information to contribute to a collaborative project. For example, in several collaborative projects students from around the country and around the world gather local data about such things as weather, ecological systems, or student hobbies and enter them into a common data base for analyzing patterns. Some wordprocessing software applications now contain features that facilitate having multiple reviewers comment on a document and share reviews across a group of collaborators. Such brainstorming tools as Inspiration enable users to generate knowledge webs and can support group conceptualization.

Researching. Technology both opens up new possibilities for students conducting research and requires students to master new skills. The list of possible sources of information now available to any student with Internet access anywhere in the world is truly staggering. Some of this information has been placed there by highly reliable sources—for example, the Library of Congress, the U.S. Census, NASA, or the National Institutes of Health. However, an abundance of inaccurate, incomplete, and biased information also exists. This is an opportunity for students to learn to evaluate information, determine its origins, understand the authors' perspective, and question the information's validity. Most important, they must learn how to synthesize the information they gather (Kleiman, 1998).

Exploring. A virtual trip to Antarctica, Mars, or under the ocean. A trip through the solar system, or through the human body. Role-playing a member of the U.N. general Assembly. An online visit to any of the world's major cities. A guided tour of an active archeological dig. These types of experiences can enhance interdisciplinary instruction and address many of the practical and logistical issues involved in applied learning at the middle level.

Producing. Word processors, graphics programs, and presentation programs have been used in many schools for a number of years. More recently, desktop publishing programs, used to produce professional-looking newsletters and student magazines, have begun to be used. Even more recently, Web site development tools have enabled students to create their own Web sites, complete with graphics, photographs, audio clips, and video clips. The capability to create multimedia products, post them on a Web site, and share them around the world, is well within reach of middle level students. As more of students' work is produced on computers, the use of electronic portfolios that enable students to easily update their work, organize it for presentation, and share it across time and space will become more prevalent.

The new technologies hold promise for middle level teachers as well as students. Access to the Internet provides teachers themselves with greater opportunities for communication and collaboration, thereby reducing their isolation in the classroom. Through electronic mailing lists and chat lines, teachers can share ideas, offer each other peer support, and engage in joint classroom projects. Technology can also support teachers' research. They can scan the Web for new ideas, get hold of the latest research findings, identify exemplary curriculum units, take "on-line tours" of other schools and classrooms, talk to experts, and identify funding opportunities, without ever leaving the classroom. Moreover, online courses, workshops, and topical discussions provide teachers with new opportunities for professional development across time and space.

The new technologies can bridge the traditional divide between family, school, and community. Through homework hotlines, for example, teachers can inform parents about their child's assignments and enlist their support. Many middle level schools have found that offering computer classes for parents is a nonthreatening way to get parents of young adolescents—especially parents who typically stay away-back into the school. Finally, business and industry are often willing to donate equipment, share technical expertise, or otherwise support schools seeking to ratchet up their uses of technology.

Challenges of Computer Technology

Despite its promise, a host of research studies suggest that access is not enough. For technology to achieve its promise, it must be fully integrated into curriculum and instruction. Some of the factors that support technology integration include:

- High-level, distributed, and coordinated leadership with a clear vision for what makes for good education
- Clear and meaningful connections between the acquisition of technological tools and the larger educational goals
- An emphasis on student work and linking technology to students and their experiences

- Recognition of the multifaceted nature of the challenge to integrate technologies well
- Substantial investment in professional development with an emphasis on utilization and adaptation of technologies to local purposes, rather than on access and direct or "raw" application of software. (CCT Report Summary, 1998).

EDC's *Make It Happen!* incorporates these findings (Zorfass, 1994). This approach to professional development grew out of nearly a decade of research on the uses of technology to support middle level students with learning disabilities in the mainstream classroom. *Make It Happen!* helps interdisciplinary teams design, implement, and evaluate inquiry-based curriculum units that use technology in all four stages of the inquiry process: (1) tapping prior knowledge; (2) gathering information; (3) organizing, analyzing, and relating in-formation; and (4) communicating results (http:www.edc.org/MIH).

Questions to Consider

A research base that reflects the development of these new technologies is just beginning to emerge. A four-year study conducted by Means and Olson (1995) found an increase in student motivation and academic performance when technology was used in the classroom to support constructivist teaching. The Union City, New Jersey school district implemented a five-year plan that included a significant investment in technology. Middle schools in this district showed increased academic performance, improved attendance records, and lower mobility rates (Honey and Henriquez, 1996). Finally, in a review of the literature about the effectiveness of educational technology, RAND Corporation concluded that "numerous studies of a wide variety of specific applications of technology show improvements in student performance, student motivation, teacher satisfaction, and other important educational outcomes" (Glennan and Melmed, 1996).

As new technologies emerge, including greater access to the Internet, additional research is needed on the impact of these technologies on a variety of different outcomes, including student motivation, social interaction, inquiry skills, and learning in the content areas. Among the questions that still need to be answered are these:

- What innovative uses of technology can best support different types of learning among young adolescents? Engage students with different interests and abilities? Provide additional support for students with disabilities? Connect to hands-on explorations, discussions, and other learning experiences?
- How are middle level schools integrating technology into the curriculum and revising the curriculum in response to new technologies? Is technology a distraction from core academic learning, rather than a support? How can teachers and students make the most effective use of the Internet and other

new technologies to meet standards and foster more authentic assessment?

- How we can successfully prepare teachers to bring the potential of technology to life in their classrooms? What kind of preservice education is necessary to prepare teachers in advance for technology in the classroom? What kind of professional development will best support the integration of technology in the classroom? How can school systems provide the necessary time and resources for effective professional development?
- What organizational factors facilitate or impede technology utilization? For example, how should computers be allocated—within classrooms or in computer labs? What is the role of computer specialists at the district or school level?
- How can family and community members support effective use of technology for teaching and learning? Can technology serve as a catalyst for parent and community involvement? If so, how?

▶ 4. Teaching Diverse Students

One of the defining characteristics of early adolescence is its intra- and inter-student variability. Changes in physical appearance are the most obvious: it is entirely normal for one thirteen-year-old to appear completely physically mature, while another still looks like a child. Young adolescents also differ dramatically in their cognitive, social, and emotional development. If middle level schools are committed to helping all students learn and achieve at high levels, then they must take into account these dramatic differences in maturity and ability.

Teaching diverse students also means attending to racial, cultural, and gender differences. In the years ahead, the cohort of young people will be smaller, and fewer college-age students will enter the workforce than in recent decades. By the year 2000 about one third of these students will be African American or Hispanic, the groups now at the bottom of the economic ladder. "We need to develop the talent of all our young people if this nation is to be economically competitive and socially cohesive in the next century" (Carnegie Council, 1989, p. 12).

To achieve this goal, middle level schools must make sure that students with the greatest academic and developmental needs are in academically rigorous classes staffed by experienced and expertly prepared teachers. That is, middle level educators must "work to educate every child well and overcome systematic variation in resources and outcomes related to race, class, gender, and ability" (National Forum to Accelerate middle level Schools, 1998).

Educational equity means more than providing students with access to curriculum and other resources. It means transforming the ways middle level educators think and act,

and it means empowerment-helping young adolescents develop the capacity to define, analyze, and act for themselves when facing social dilemmas (Avery, 1988). Moreover, equity does not necessarily mean "equal" or "same." As an example, imagine two children-one over-weight, one underweight. We would never expect the doctor or nurse to prescribe the same diet for each of these youngsters. Here, equal treatment would lead to very different out-comes. Instead, we expect the doctor or nurse to prescribe the appropriate diet so that each child reaches his or her ideal weight. So too, middle level administrators and teachers must prescribe the appropriate instructional strategies and support systems so that each child can reach his or her full potential. Three key strategies and supports are discussed below.

A. Detracking

One of the greatest institutional barriers to educational equity, especially at the middle level, is tracking students into separate classrooms based on a single measure of intelligence. Achieving educational equity and excellence for all students requires that we acknowledge and abandon this systemic institutional policy that has been shown to create disparities in both student access and outcomes. One-quarter of low socioeconomic status children, compared with two-thirds of children with high SES, are placed in the college track. A full 80 percent of urban school children hope to attend college, but only 15 percent are placed in a college prep sequence (Haycock, 1997). As Haycock points out,

> *"The numbers paint a disturbing portrait of achievement patterns among minority and low-income youth. The data suggest that by the time students are high school seniors, the average minority or poor student is from three to four years behind other students. The data suggest too, that after more than two decades of progress in narrowing the gap, it actually is growing once again" (p. 30).*

Some middle level schools have implemented a detracking policy to chip away at these inequities in education. Detracking has been shown to benefit all students and to lead to changes in the way teachers teach and the way students relate to one another. For example, detracking has motivated teachers to come up with strategies and approaches that emphasize contextual learning, and to structure learning around themes (Oakes and Lipton, 1992). These approaches create a diverse and multifaceted classroom where all students can and do learn.

Most importantly, detracking leads to changes in the attitudes and beliefs among students and teachers about who should and can achieve (Oakes and Lipton, 1992). Research has shown that detracking not only leads to changes in the curriculum but to the ways in which people think about difference. "This rethinking asks people to challenge their entrenched views on such matters as human capacities, individual and group differences, the purposes of schooling, and the ever-present tensions between the

norms of competitive individualism and the more democratic norms of support and community" (Oakes and Lipton, 1992).

B. Understanding and Addressing Racial, Ethnic, Linguistic, and Gender Diversity

While detracking can be a powerful strategy toward ensuring that all students have access to a rigorous, standards-based curriculum, it is by no means a panacea. For one thing, teachers are faced with the challenge of cultural and linguistic diversity in their classrooms and must be able to understand and address such differences.

The demographic map of American society is changing dramatically, because of both immigration and higher birth rates among racial and ethnic minority populations. While minority youth made up 15 percent of the school-age population in 1980, it is expected to reach 50 percent early in the next millennium. The number of students whose first language is not English is also burgeoning, and the number of different tongues spoken in a typical middle level school can easily exceed 15 or 20. Yet, many middle level teachers are ill-prepared to teach these students, most of whom look, sound, and behave differently.

In order to teach such diverse students, middle level teachers need to understand that, while each individual is unique, the historical experiences of different racial, ethnic, gender, and class groups have influenced their current opportunities and resources. These factors, which are inextricably intertwined, have generally resulted in different access and outcomes for middle-class white boys, rich girls of color, poor white girls, working class boys of color, etc. They also affect how teachers and administrators view students, particularly their expectations about how well students will perform.

In a comprehensive review of the literature, Zeichner (1993) identifies a number of teacher education strategies for dealing with diversity-strategies that apply equally well to middle level teachers and administrators committed to educational equity. Among these are developing of a clearer sense of one's own ethnic and cultural identity, examining one's attitudes toward other ethnocultural groups, and obtaining information about the communities represented in one's school or classroom. Other elements include identifying and addressing school practices that contribute to the reproduction of societal inequalities; learning about the histories and contributions of various ethnocultural groups; and gaining knowledge about the relationships among language, culture, and learning. Of utmost importance, teachers must be given professional development opportunities to assess the relationships between the methods used in the classroom and the preferred learning and interaction styles in students' homes and communities. This includes how to use various instructional strategies and assessment procedures that are sensitive to cultural and linguistic variations, and how to adapt classroom instruction and assessment to accommodate the cultural resources their students bring to school.

Beane (1990) recommends that middle level curriculum include all views and recognize the presence of all people, not just the histories and concerns of white, middle-class males. Rather than extend the status quo, he believes that "middle schools have a moral obligation, rooted in democracy, to open it up for critical examination and broader understanding" (p. 44). One way to do this is to ensure that the concept of human dignity—and the related ideas of freedom, equality, caring, justice, and peace—permeate the middle level curriculum. Another is to prize and "clearly portray the exciting possibilities of cultural diversity, not only in the sense of the increasing presence of non-European immigrants, but also with regard to the many cultures already present, including the culture of early adolescents themselves."

Diversity is not only cultural or linguistic. Gender differences are extremely important at this developmental stage, as young people are struggling to define themselves and their role in the world, a primary task of early adolescence. Teachers' beliefs about students' abilities greatly influence both the students' beliefs about their own abilities and the results of their efforts. Yet major differences still exist in the way teachers interact with girls and boys. Sadker and Sadker (1994) have labeled this treatment "subtle and insidious gender lessons, micro-inequalities that appear seemingly insignificant when looked at individually but have a powerful cumulative impact."

C. Understanding and Addressing Individual Differences

Middle level schools must find ways to help all students learn and achieve at high levels, including students with disabilities and students who are considered "at risk" of educational failure due to poverty, low achievement, or other problems. This means personalizing middle level education, so that each youngster has the opportunity to "acquire durable self-esteem, flexible and inquiring habits of mind, reliable and relatively close human relationships, a sense of belonging in a valued group, and a sense of usefulness in some way beyond the self" (Carnegie Council on Adolescent Development, 1989, p. 12).

There are a number of ways that middle level educators can ensure that students of differing abilities have the opportunity to learn and achieve at high levels and to develop as caring and competent adults. As Wheelock (1997) and Ames and Miller (1994) point out, this may mean:

- Providing students with peer tutors or adult mentors
- Extending the school day (by providing after-school assistance programs), the school week (by offering Saturday school), or the calendar year, so that students have more time and multiple opportunities to succeed
- Attending to young adolescents' social, emotional, and physical needs, which are essential for active learning and healthy development
- Recognizing that students have "multiple intelligences" and diverse learning

styles and providing them with multiple entry points and diverse instructional strategies tailored to their strengths and needs
- Giving students the chance to demonstrate their understanding through a variety of different modalities (e.g., oral presentation, written report, artistic display, or performance on a specific task)
- Involving parents and other members of the community in providing the comprehensive services, additional resources, and supports necessary to ensure each child's success.

Questions to Consider

Middle level schools serve a diverse population, not only due to differences in race, culture, language, and gender, but also due to the wide intra- and inter-individual differences that are characteristic of early adolescence. Since young adolescents are at widely varying "ages"—chronological, social, emotional, biological, and cognitive-heterogeneous group-ing of such students is even more challenging. While middle level educators have identified a number of different strategies for dealing with differences in middle level classrooms, as summarized here, many questions remain:

- How do race and class intersect with gender in young adolescents' self-perceptions, goals, and achievement in and out of the classroom?
- How can middle level teachers interact positively with students from different backgrounds, making sure that they do not convey subtle (or not so subtle) messages about different abilities that ultimately limit students' educational and career expectations?
- How can we help middle level teachers prepare to deal with the diversity among their students? What are the dimensions of a competent, content-rich teacher who can engage with diverse students? What can we learn from existing strategies to recruit people of color into teaching? What is the impact of having teachers of color in schools where students are predominantly white (and vice versa)?
- What instructional strategies are most appropriate for dealing with widely differing abilities in the same classroom? What instructional strategies contribute to students' academic learning and their sense of efficacy, self-determination, and self-confidence? What success are teachers having with reciprocal teaching, Socratic seminars, and other methods of instruction that take advantage of young adolescents' need for social interaction? How can the arts (e.g., music, art, drama, and dance) be used to tap into students' multiple intelligences? What kinds of study skills, active reading strategies, and other learning strategies do middle level students need in order to meet the higher standards set for them?
- What kinds of professional development and ongoing support do middle

grades teachers need in order to implement these instructional strategies? Are there effective models of professional development that address developmental responsiveness, academic excellence, and social equity?

- Can we identify schools that are welcoming to diverse adolescents and their parents and effective in helping all students reach high standards? What strategies do these schools use to ensure that all students have the supports they need to learn and achieve at high levels? Are there particular staffing patterns that hold promise—e.g., use of resource teachers in the classroom? Can we locate exemplary school-community partnerships where young adolescents receive the services they need from agencies and organizations in the local community?
- Although preliminary research suggests that time is not the sole determinant in student academic performance, many policymakers are currently advocating for lengthening the school day, week, and/or year. Under what circumstances, if any, does additional time enhance learning and achievement, especially for those students who are at risk of educational failure?

Answering these questions will bring us greater knowledge about how to enhance the educational experience and outcomes for all students in our middle level schools.

▶ 5. Authentic Assessment Linked with Standards

Like standards, assessments can play a pivotal role in promoting middle level reform. They can help schools and teachers focus attention on enhancing learning and achievement for all students by:

- Communicating the academic goals for schools, teachers, and students
- Providing concrete targets for meaningful teaching and learning
- Shaping the performance of educators and students (Education Commission of the States, 1997).

Assessment has its greatest potential in promoting middle level reform when it is aligned with standards, a standards-based curriculum, appropriate instructional strategies, supports for teachers to implement these components, and an incentive system that is meaningful to teachers and students. Moreover, for assessment to support the kind of teaching and learning envisioned in the national standards, it must be authentic.

According to Newmann, Secada, and Whelage (1995), authentic assessments contain tasks "that demand construction of knowledge through disciplined inquiry and that result in discourse, products, and performances that have value or meaning beyond success in school" (p. 14). These might include, for example, open-ended responses to questions, performance tasks, exhibitions, culminating projects, and portfolios containing samples of student work over time.

As an example, eighth grade students in Norfolk, Virginia must complete a benchmark exhibition on social issues. Students assume the role of survivor in a country devastated by some catastrophic event. As one of the survivors, they must revitalize their country. Their task is to rebuild their society from a social, political, economic, technological, and cultural point of view. Each student must prepare a three- to five-page position paper addressing the overarching question: What steps are necessary to establish law and order from these various perspectives? They must then defend their paper before a panel of experts, including teachers, parents, and community members. In addition, they must work with other students to design a multimedia presentation involving dance, music, video, drama, games, etc. Each presentation must draw on at least four different data sources. Because this exhibition asks students to demonstrate higher-order thinking skills, uses a variety of methods for eliciting student understanding, and asks students to apply their learning to a problem or task that has meaning beyond the classroom, it meets the standards for authentic assessment set forth by the authors.

Benefits of Authentic Assessment

Authentic assessment has six key benefits for middle level education. First, authentic assessment communicates to students, teachers, and parents alike the kind of intellectual work that is valued. As middle level leaders struggle with how to get teachers, students, and communities to rethink the goals of middle level education, carefully selected assessments can send a clear message about the importance of helping all students learn and achieve at high levels. In middle level schools, where achievement gaps have been a large problem and tracking continues to be a confounding factor, well-designed authentic assessments can reinforce strategies designed to address these problems. For instance, when teachers, students, and parents realize that all students are accountable for learning algebraic concepts in the middle grades, the expectations and classroom practices for some of the traditionally underserved students will change.

Second, authentic assessment requires that students experience curriculum and instructional strategies that prepare them for the assessment. For instance, many authentic assessment tasks require students to create an elaborated response to a question rather than choose a response from a given list. Students need to be able to think critically, construct answers, and move beyond focusing only on factual knowledge in order to provide responses to these kinds of assessment tasks. For middle level schools with clearly articulated standards, authentic assessments reinforce those standards and necessitate a curriculum that connects the standards to the assessments.

Third, authentic assessment reinforces the notion of continuous progress. Given the wide variations in development during early adolescence, each student must be helped to progress at his or her own rate. This requires careful and continuous assessment of individual progress, with increasing student involvement in setting goals, determining

methods of learning, and self-evaluation (NMSA, 1982). Student portfolios, in particular, document students' learning over time and encourage students to reflect on their progress.

Fourth, authentic assessment addresses many of the motivational difficulties found in traditional middle school grading practices. As students enter the middle grades, their report card grades tend to go down as their overall competencies and knowledge go up (Peterson, 1986). This may be because students are being compared with a new population of students from other elementary schools (Epstein and Mac Iver, 1990). Whatever the reason, the changing pattern of students' report card grades suggests the need for middle schools to use many different types of assessment to motivate students who are trying hard but who cannot receive top grades (or even passing grades) if performance is judged solely in relative terms.

Put another way, authentic assessment reinforces the notion of effort by giving middle level students a "task-goal orientation" (Urdan and Klein, 1998). Students who are task-goal oriented perceive that "the purpose of academic work is to develop and improve skills, learn for the sake of learning, or gain new insights into a topic" (p. 10). Success on a task is defined by how well the student performs against a given benchmark, not how well he or she does in comparison to others. Students know where they are on a continuum, and what they must do to move to the next level of accomplishment.

Fifth, authentic assessment places students at the center of their own learning. In traditional grading systems, students often receive an A, B, or C with little or no explanation for the rating. In many cases, grading criteria are often implicit and highly subjective. If prepared and presented well, authentic assessment provides students with clear and explicit criteria for performance that meets or exceeds the standard. This allows them to reflect on their own progress, set realistic goals, and engage in continuous improvement. As Stevenson (1992) says,

> *"I know from countless interactions as a teacher with young adolescents that they are quite capable of setting appropriate learning goals for themselves without regard to external recognitions. Young adolescents are remarkably savvy about the differences be-tween work as an expression of personal need and work aimed at an external goal . . . , we must be mindful not to underestimate our students' awareness of their needs and ca-pacity for real accountability" (p. 267).*

Finally, one of the most exciting benefits of authentic assessment is its potential for teacher growth and development. Authentic assessments provide teachers with more information about what their students know and can do than they can glean from traditional, fact-based, multiple-choice testing. As teachers examine their students' work and use scoring guides to assess their performances, teachers can better understand the strengths and weak-nesses of their students' learning, reflect on their own teaching strategies, and modify in-structional plans accordingly.

Challenges of Authentic Assessment

Research indicates that most teachers incorporate the underlying goals of authentic assessments into their instructional strategies (ECS, 1997). Still, the importance of professional development and support in implementing authentic assessment to guide teaching and learning cannot be overemphasized (Little and McLaughlin, 1993). With additional guidance and support, teachers can enhance the criteria for their grading system or create more authentic performance tasks. With a system that supports implementation (e.g., reducing class size or expanding teachers' planning time), teachers may find authentic assessment less daunting.

The use of student portfolios is a perfect opportunity for more intensive professional development. Seidel and his colleagues at Harvard University's Project Zero recently published an entire volume on the why and how of portfolio assessment (Seidel and Walters, 1997). As they point out, portfolios can be an important tool, especially in measuring students' evolving understanding of key concepts and development of important thinking and communications skills. Yet what often passes for a student portfolio is a loose collection of student worksheets slipped into a manila folder. This is hardly what proponents of portfolio assessment have in mind.

While much of the teacher learning about authentic assessment is serendipitous, many schools and districts are finding ways of capitalizing on this learning in more formal settings. For instance, many performance assessments must be scored by expert judges, using clearly defined scoring guides. "The development and application of such scoring guides presents teachers with a rare opportunity to discuss standards and performance expectations" (ECS, 1997, p. 1). In other settings, such as ATLAS Communities, whole faculties are assigned to small study groups whose primary focus is the examination of student work. Such group analyses can create powerful professional dialogue about the kind of curriculum and in-struction that fosters student learning (http://www.edc.org/ATLAS).

Parent and community support is also critical in implementing authentic assessment. Without a sense of ownership on the part of parents and community members, the system-wide changes required to effectively implement authentic assessments will not occur. Regardless of the fact that the current grading system is highly subjective, fails to guide teaching and learning, and often interferes with young adolescents' identity formation process, parents are familiar and comfortable with it. Moreover, they are convinced that their youngster's success in high school (and beyond) is dependent on their grades. Some middle level schools are beginning to break down these misconceptions and enlist parent support for more authentic assessment by convening student-led parent conferences and inviting parent and community members to assess student portfolios, projects, and exhibitions. Only by actively involving parents, community members, and college/university representatives in the assessment process

are middle level schools likely to change these firmly held beliefs and assumptions.

At the organizational level, many districts send mixed messages by keeping more traditional assessment systems in place, even after they proclaim that they are committed to a newly adopted authentic assessment system. When administrators and teachers see a continued commitment to traditional assessments, they are often unwilling to make changes in curriculum or instructional strategies to meet the needs of a new assessment system. Schools, districts, and states are currently struggling with finding assessment systems that are not only authentic but also aligned with the newly adopted standards. This leads us to the final dilemma in this paper: the use of internal versus external accountability systems to ensure that schools and school systems meet their goals.

Questions to Consider

Because authentic assessment allows young adolescents to demonstrate their understanding in a variety of different ways, it has the potential for reinforcing improved teaching and learning at the middle level. Yet, authentic assessment is still in its infancy, and all too many middle level schools continue to rely on traditional grading and multiple-choice testing to assess their students. Among the questions that need to be addressed are thesse

- To what extent are middle level teachers using authentic assessments in their classrooms? What kinds of assessments are most common (e.g., open-ended responses to questions, performance tasks, exhibitions, culminating projects, portfolios)?
- What is the purpose of these assessments? Are they being used by teachers to guide curriculum and instruction? Does close examination of student work afford teachers a better understanding of the strengths and needs of their middle level students? Does it lead to reexamination of classroom practice?
- What is the relationship between student motivation, student performance, and the type of assessment used? Are authentic assessments especially appropriate for students with disabilities or students who do not traditionally perform well on standardized tests of achievement? In what ways do assessments change teachers' expectations and perceptions of their students or students' expectations and perceptions of themselves?
- What organizational supports are districts or schools providing to help ensure that teachers have the knowledge, skills, and opportunities they need to create, administer, score, and/or use authentic assessment to guide instruction? What types of formal "training programs" seem most effective in promoting authentic assessment? What kinds of informal mechanisms support authentic assessment (e.g., study groups, or action research teams that meet regularly to examine student work)?

- What strategies have schools/communities used effectively to gain parent/community support for more authentic forms of assessment? Can these be replicated in other contexts? Are colleges and universities willing to look at more authentic measures of student performance, rather than relying on traditional grades and standardized test scores? If so, what are some innovative approaches that colleges and universities are taking to student admissions?

▶ Conclusion

One of the most overlooked aspects of middle level reform is curriculum, instruction, and assessment. In an effort to develop smaller, more nurturing environments for young adolescents, middle level educators have paid scant attention to the heart of the matter: teaching and learning. This paper has addressed five major challenges for middle level educators: (1) how to establish clear standards for student performance, without reverting to standardization; (2) how to balance interdisciplinary and discipline-specific curriculum and instruction so that students can meet high standards; (3) how to identify and implement instructional strategies that respond to the unique developmental challenges of early adolescence; (4) how to ensure social equity, taking into account the wide diversity among students at the middle level; and (5) how to make good use of authentic assessment.

None of these challenges is unique to the middle grades, but each must be considered in that special context. As educators seek to overcome these challenges, they must ask themselves: (1) How does this strategy respond to the unique developmental challenges of early adolescence? (2) How does this strategy foster academic excellence? (3) How does this strategy contribute to social equity?

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CHAPTER FOUR

Increasing the Capacity and Will to Accelerate Middle Level Reform: An Argument for Small Middle Level Schools

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▶ Context of the Paper

Prologue

Twenty years ago, I was a teacher in a small school that was born as a result of parent frustrations with the nine public junior high schools in a large suburban district in the state of Washington. Five of us were hired as teachers by a committee of parents and students to begin the first approved public alternative junior high school in this district. For five years, I participated in one of the best experiences I have had at the middle level. We were a community of learners; we were an educational "family."

Our small size offered a variety of advantages. We integrated curriculum, involved students in the development of the curriculum, engaged parents as teachers to reduce class size, and involved students and parents to reach consensus on important issues. We often had the entire school in a single room to make such important decisions. Each of us had a multi–graded homeroom. Students had individual plans of progress. We were very involved in the community, and the community was very involved in the school.

Moreover, we were very flexible; for example, we changed locations often, as we were housed in a variety of settings. Our furniture was always leftovers, and often was donated. Our students were very diverse, and, despite our diversity and unorthodox methods, our students competed well with the rest of the students in the district on measures of student achievement. This was before the middle school movement, and we were implementing practices that as yet had not been named or become part of an orthodoxy. I am still in contact with adults and students who were involved in this special experience. The school is still a thriving alternative—now, a middle school.

When I became a principal, I tried to duplicate many of the principles and programs that were so successful in this junior high school, Olympus Northwest, in other settings. It was difficult. In three middle schools, in three different districts, I was never able to quite create the same sense of community that resulted in the developmental responsiveness, social equity, and yes, academic excellence accomplished at Olympus. In reflecting on this, I realized that it became even more difficult to implement needed reform as the schools increased in size. In fact, the most challenging year I experienced as a principal was my 13th year, when we were responding to an increase in enrollment from 450 to 900 students in three years, and remodeling and enlarging the school to accommodate the enrollment increase in the fastest growing county in the state of Washington.

It was my experience that school size—even more than the style of a superintendent, financial constraints, the background of the teachers, the state policies, or the diversity of the students—impacts the capacity and will of a principal to lead, teachers to teach, community members to be involved, and students to participate in meaningful, rigorous

learning. Smaller schools enhance the capacity and will to accelerate middle level reform—even more than the implementation of a set of defined practices of middle school orthodoxy. Today, I discover that my experience is the experience of others in the field as well.

Purpose of the Paper

Research in middle school reform over the past 30 years has suggested an orthodoxy of practices that result in effective schools that best meet the needs of young adolescents, ages 10–15. The overarching aim of this paper is to raise questions about why, despite this research, too few schools that serve young adolescents can be described as high-performing. In developing the paper, I have examined personal experiences in the middle level over the past 25 years as well as the best literature and research currently available about middle level philosophy and middle school education.

The basic premise of this paper is that there is ample research on what works to ensure effective middle level schools. This paper will focus, instead, on suggestions for research that will increase the capacity and will of schools serving young adolescents in order to accelerate middle level reform. The primary suggestion is to explore the relationship of school size to results in the way of developmental responsiveness and social equity of middle level schools, and academic achievement of students in these schools. Is it easier to implement necessary reform in a smaller school? Is leadership more effective in small schools? If so, what is the optimal size of a school to accomplish necessary reforms? The paper also suggests practical applications of this research.

To provide a broader range of possible research studies around the areas of middle school and middle level reform, the paper also includes a look at possible research questions suggested by sources used for this paper.

Approach of the Paper

A number of suggestions for creating the will and capacity to accelerate middle level reform have been proposed (see, for example, Lipsitz et al., 1997a; Oakes et al., 1993; and Oakes, 1996). This paper will focus on the rationale and implications for examining school size to create larger capacity for reform at the middle grades. Specifically, the paper will suggest:

1. A shared vision of high performing middle level schools is necessary to move beyond middle school orthodoxy in order for schools to implement practices that transcend current middle school philosophy and work effectively for today's young adolescents. Research on small schools at the elementary and high school levels suggests that reducing school size is one of the best vehicles to achieve this vision.

2. The middle level reform movement has always been characterized by its responsiveness to the characteristics and needs of young adolescents. With our changing population, these characteristics and needs are different. More students, often characterized as "at risk" are in need of relationships found in smaller schools. When these relationships are formed, these students are able to achieve at high levels.

3. Leadership in the school is a paramount prerequisite for school reform. Leadership is most developed, nurtured, and effective in smaller schools.

4. Developing a unique middle school identity may decrease the capacity and will of a broader range of schools serving young adolescents to develop and create a unified approach to reform. A united voice calling for smaller schools can help all schools increase their capacity and will to reform.

5. There has been a greater emphasis on middle schools (schools with grades 6–8 that implement a set of prescribed practices) than middle level reform (reform in schools with many grade configurations that serve young adolescents and implement practices that serve the needs and characteristics of the adolescents attending these schools). When this emphasis results in increasingly larger middle schools, we may, in fact, be inhibiting the capacity of schools to become high–performing.

The discussion of school size and its relationship to middle school reform in this paper will suggest research efforts that the U.S. Department of Education, Office of Education Research and Improvement (OERI) might sponsor related to school size, the effects size has on promoting middle level reform, and resulting outcomes for students attending these schools. Four areas will be integrated throughout the paper: individual development, classroom structure, school organization, and parental and community involvement.

Ultimately, the goal of this paper is to help researchers and practitioners view middle level education more broadly. It will, hopefully, encourage them to synthesize a broad range of issues under the umbrella of school size, to provide a more comprehensive understanding of early adolescence and best practices to promote academic excellence, developmental responsiveness, and social equity in middle schools, regardless of their grade configurations.

Why the Interest in School Size?

School size was selected as the particular interest area of this paper for the following reasons:

1. Schools serving young adolescents are not implementing middle level reform recommendations to the degree desired. Why? This paper argues that

school size facilitates or hinders the degree to which schools are able to make necessary changes to best meet the needs of young adolescents. Simply, it is more difficult to implement such changes in larger schools, and easier to implement such changes in smaller schools.

2. School size is a concept that is more readily understood and accepted by the general public. Parents perceive smaller schools as safer schools. Small schools can achieve outcomes more easily, as a result. For example, research suggests that small schools achieve social equity outcomes much more easily than detracking in a large school.

3. It is an opportune time to capitalize on increased interest in "smallness." President Clinton has called for smaller classes. There is an increase in charter schools. There are efforts in large cities such as Philadelphia, Los Angeles, Chicago, and New York City to reduce school size. And there is an increase in private school attendance.

4. Limited extensive research on middle school size has been done to date. A growing body of research on school size at the elementary and high school levels suggests that school size may be the best vehicle to ensure academic excellence, developmental responsiveness, and social equity in schools at all levels, including middle schools.

5. Emerging middle level research is recognizing the importance of creating small learning communities in schools with middle grades. School size contributes to this relationship building.

6. Gaps in student achievement between urban and non–urban schools are alarming (*Education Week*, January 8, 1998). Most students in urban public schools around the country are failing to master even basic skills in reading, math, and science, the report concludes. At the same time, the number of students who can be characterized as "at risk" is increasing in public schools. Research indicates that smaller schools have a more positive impact on these students.

7. A topic like school size encourages researchers, educators, and policy and decision makers to look at the parallels in best schooling practices across grade levels. Are the programs identified as best practices in middle schools (i.e., personalization, integration, small learning communities) also best practices in elementary and high schools? Are programs that are best practices in elementary schools and high schools (i.e., multi–graded approaches and smaller schools) also best practices for middle schools?

8. Millions of dollars will be spent in the next decade to build and remodel schools throughout this country. What implications does research on school size have for future facilities? Do we want to build, as one researcher described, "Taj Mahal" middle schools? Would it be better to invest construction dollars in creating smaller schools?

9. "Excessive student populations" was identified in 1968 as one of three most frequent obstacles (in addition to teacher adjustment and finances) to developing effective middle schools (Alexander, 1968). And yet, our middle level schools continue to become larger. It's time to put a halt to this trend.

10. Creating smaller public middle level schools, with resulting positive outcomes, may be the best vehicle to increase public confidence.

▶ Rationale for Smaller Middle Level Schools

The Importance of Shared Vision—And How to Best Achieve It

A shared vision of high-performing schools is necessary to move beyond middle school orthodoxy so schools can implement ever-changing and increasingly effective practices that transcend current middle level philosophy and work effectively for today's young adolescents.

Schools and educators throughout the country are in very different places in terms of implementation of middle level reform recommendations. Some schools and educators are only beginning to understand the needs and characteristics of young adolescents, are relying on the "checklist" of effective middle school practices, and are considering the merits of a grade organization change. Other schools and educators have been implementing effective practices for many years and feel confident to modify or throw away the "checklist" to best meet the needs and characteristics of the young adolescents attending their schools. They are prepared to move from the middle school concept of interdisciplinary teaming to the broader concept of creating learning communities; from advisor-advisee programs to restructured adult-student relationships; from block schedules to using time as a resource; from interdisciplinary units to rigorous and authentic curriculum, instruction, and assessment; from parent participation to parents as active partners; and from testing to accountability and program evaluation (Williamson and Johnston, 1996).

With this diversity of middle level practitioners, it seems important that we practice what research suggests is one of the most important elements of building a learning community—having a shared and common vision.

As an outgrowth of *Speaking with One Voice* (Lipsitz et al., 1997a), a group of educators,

policymakers, researchers, and members of professional organizations and foundations meet regularly to determine how to collectively advance an agenda to accelerate reform in schools that serve young adolescents. A first step of this group of approximately 40 middle level education leaders, who call themselves the National Forum to Accelerate Middle-Grades Reform, was to create a collective vision for middle level education reform. Members of the Forum share a sense of urgency that high-performing schools become the norm, not the exception. Therefore, they have made a commitment to work with those responsible for middle level education—educators, policymakers, leaders in higher education, family and community members, and other stakeholders—to identify and replicate successful practices, share resources, build public support, and create and sustain a coordinated movement of middle grades education.

At a January 1998 meeting in Washington, D.C., the members of the Forum unanimously endorsed a vision statement that had been developed collaboratively. The collective work of this diverse group and the universal endorsement of this vision is so compelling that, when published, the vision should drive research, actions, activities, and program implementation at the middle level in future years. It is important to note that the vision statement is written inclusively for all schools with middle grades, not for middle schools exclusively.

The vision statement begins: "Youth in the middle grades are capable of learning and achieving at high levels. However, in all too many cases, middle-grades education fails students, particularly those who are most dependent on schooling for the knowledge and skills they need to become productive citizens." It goes on to describe in less than two pages how high-performing middle-grades schools look when they are academically excellent, developmentally responsive, and socially equitable. These descriptions are referenced in the section of this paper that examines research on school size.

"There is no research base that clearly demonstrates that one particular size student population is inherently better than another size student population (in middle schools). Likewise, there is an absence of definitive research identifying a specific middle school size that is ideal." (McEwin et al., 1996, p. 15, 132.)

This shared vision does not describe a prescribed set of practices or a checklist of programs for effective middle level schools. Nor does it espouse a specific organization of grades. It does imply that in order for schools that serve young adolescents to be high-performing, to effectively serve the students that attend these schools, schools need to attend to the three areas of developmental responsiveness, social equity, and academic excellence. Attending to fewer than all three areas is insufficient.

Research on School Size and Its Relationship to the Vision

The trend in American education in the past century has been to consolidate small or far-flung districts, largely in the interest of efficiency. The trend toward larger middle schools parallels what has been occurring with larger comprehensive high schools. While there has been no large-scale backlash against this trend, discontent with what are seen as distant, unresponsive, or obstructionist central bureaucracies runs strong in some

cities. Chronically poor academic performance often fans such sentiments (Hendrie 1998, p. 23).

Perhaps for this reason, there are some indications that school size is becoming an issue at the middle level. For example, results from a 1992 NASSP study found that middle school principals believed that between 400 and 599 is an optimum size for middle schools. The second most frequently selected size was 600 to 799 students (Valentine et al., 1993).

Despite the apparent popularity of smaller schools, the trend is toward larger middle schools. The percent age of small schools (1–400 students) did not change significantly from 1968 (38 percent) to 1988 (34 percent). However, a notable decrease in small middle schools occurred in the five–year span from 1988 to 1993 (34 percent to 22 percent). During these same time periods, the percent ages of large middle schools (more than 800 students), after increasing only 2 percent in 20 years, increased from 14 percent in 1988 to 30 percent in 1993. These changes demonstrate that less than half of middle schools had enrollments in the recommended 401–800 student range (48 percent) in 1993, while percent ages of middle schools with small enrollments (1–400 students) decreased, and middle schools with larger enrollments (more than 800 students) increased rather dramatically in five years (McEwin et al. 1996, pp. 15–16).

Middle school researchers and inservice providers have tended to side with the opinion that "The overall quality of middle level schools continues to be more closely related to factors (other than size) such as the quality of programs, teachers, leadership, organizational plans, and grouping practices" (McEwin et al. 1996, p. 15). In other words, because there are currently some highly effective middle schools of all enrollment sizes, as long as a school is developmentally responsive, school size is "probably not the major determinant of successful middle schools" (p. 17).

Most research on the effects of school size have been conducted in high schools. Among several large–scale studies is one that examined the records of 20,000 students in Philadelphia's public high schools, comparing student performance in large and small schools (McMullan et al., 1994); another that examined the scores of 13,000 students in Alaska (Huang and Howley, 1993); others that have investigated the schools of entire states and documented the effects of school size (Fowler, 1989; Heck and Mayor, 1993); and a growing number of studies based on the experiences of nearly 12,000 students in 800 high schools nationwide (Lee and Smith, 1994; Lee et al., 1995). Highlights of the research on small schools includes

1. Students at all grade levels learn more in small schools than in large schools, although school size and organization tend to play a greater role as students get older.

2. At-risk students are much more likely to succeed in small schools than in large schools.

3. Small schools are far more likely to be violence-free than large schools.

4. The bonds created in small schools enable such schools to influence students' post-high school behavior, including college attendance.

5. The success of small schools is attributable to various features, all of which seem to emerge from three key factors: small size; an unconventional organizational structure; and a setting that operates more like a community than a bureaucracy (Raywid 1998, p. 36).

Research further suggests there are more within-school disparities in students' learning opportunities and academic outcomes in large schools and that the students in these schools are more likely to become alienated and drop out (Mac Iver and Epstein 1993, p. 522).

While there is no accepted definition of the "small" high school, institutions enrolling fewer than 400 students in grades 9–12 are generally considered small. In 1993–94, approximately one of every three public high schools in the United States fell into this size category (NCES, 1995). Small high school size does not, in and of itself, guarantee a high quality curriculum; it does appear to facilitate its development.

Significant to middle level researchers is the fact that proponents of reducing the size and scope of schooling operations point out that structural change (e.g., creating smaller schools, schools-within-schools, house plans, etc.) will not improve curricular opportunities for students without a committed group of teachers, a more flexible central authority, and adequate resources (Lee et al. 1995; Meier 1995; Raywid 1998).

In reviews of high school size, it is clear that the consolidation movement has successfully resulted in larger schools despite empirical findings that curricular adequacy is reached at schools with a graduating class of 100 students (or 400 students for four grades). Size alone does not guarantee a comprehensive curriculum in any subject area, and the breadth and depth of the curriculum of small schools compares favorably with larger schools (Haller et al., 1990).

In addition, large secondary schools, that is, those with a graduating class of more than 750 students (more than 35 percent of the public school enrollment) seem to have negative effects on student attitudes, achievement, and voluntary participation. Some researchers suggest that these effects may persist into adulthood, if not into college attainment.

> We have in secondary education a paradox. The overwhelming weight of research studies confirm beneficial effects for small high school size, and detrimental effects for large high school size. However, for over thirty years, educators have been pursuing a policy of high school consolidation, which has lifted the average size of high schools well beyond that urged by the strongest advocates of larger secondary schools, and present policies suggest that the trend toward ever larger high schools will continue. . . In short, there is a natural predilection in American education toward enormity, and it does not serve schools well (Fowler 1992, p. 16).

Research findings on school size provide insights on curricular and cocurricular offerings as well, which negate parental concerns about smaller schools.

1. Core curricular offerings in small high schools are well aligned with national goals and comparable to those in large schools.

2. Smaller high school have fewer advanced courses, but large size neither guarantees such offerings nor high enrollments in them.

3. Larger schools offer a broader array of courses in occupational and technical education, but smaller schools offer more favorable proportions of vocational offerings per student.

4. Larger schools offer more special services to students with disabilities and special needs, although small schools may use programs and well focused curricula in this area.

5. Smaller schools have fewer cocurricular activities but higher participation rates (Roellke, 1996).

School Size and Its Relationship to Middle Level Reform

Although recent reports of various middle level education task forces have advised school districts with large middle schools to "create smaller learning environments" (Carnegie Council 1989, p. 38; California State Department of Education 1987; NASSP 1985), these reports have not advocated abolishing large schools, but rather have advocated the establishment of schools–within–schools or houses, and the formation of teachers and students into teams.

Yet most middle schools do not yet use structures such as clusters, houses, teams, or schools–within–schools to make big schools small (Epstein and Mac Iver, 1990a). If restructuring truly is an aim of middle level reform, then the scale of schooling is a major issue. John Goodlad, Theodore Sizer, Henry Levin, Fred Newmann, Torsten Husen, and Terrel Bell have all pointed to smaller school and district size as a way to help the institution of schooling become more responsive to students. In an address to the

American Educational Research Association, Tom Sergiovanni (1993) called on administrators to regard school as a community rather than as an organization, proclaiming that a school enrollment of 300 is the largest that could sustain a true educational community (Howley, 1994). Keeping learning communities small allows teachers to develop individualized learning plans for students who need them; students and teachers get to know and understand each other better.

School size research is able to inform middle level reform in a number of ways. First, school organization matters. Second, whether a school operates more as a bureaucracy or a community matters a great deal. Third, creating the sort of school organization that will stimulate and support success will require a lot of changes in most schools. Fourth, there appears to be almost a natural sequence—a logical progression—taking the small schools that are adequately supported from one item on the reform agenda to the next. Small schools appear to be the most hospitable and conducive setting to accomplish middle level reform recommendations. For example, research on small schools suggests that

> *. . . a small teaching staff with the collective responsibility of designing a distinctive program is stimulated to do the kind of collaborating now so strongly recommended: to pursue a continuing examination together of what works and why, and what needs to be avoided. (Raywid 1998, p. 37).*

Small School Size Can Promote Academic Excellence at the Middle Level

Research has found that lower enrollments in schools better allow for engaging and meaningful instructional practices such as a common academic curriculum, high academic standards and expectations, and authentic instruction involving sustained critical thought (Roellke 1996). While the positive link between small schools and increased academic achievement is less clear than the links between small schools and developmental responsiveness and social equity, a recent study that recommended 600–900 students as the ideal size for a high school provides important insights into the relationship of school size to academic excellence. This study, based on math and reading data from a federally supported testing program that is tracking 24,000 students, found that students learned less in schools above or below the ideal range. Noting that performance of poor and minority students was most affected by school size, the researchers concluded that urban districts should break up big schools while making sure that smaller schools are large enough to offer a sufficiently broad curriculum (Lee and Smith, 1995).

High-performing schools with middle grades are academically excellent. They challenge students to use their minds well, providing them with the instruction, assessment, and support they need to meet rigorous achievement standards. (From Vision Statement, National Forum on Middle-Grades Reform, 1998.)

Other research suggests that school size affects student achievement outcomes. Secondary school size determines student satisfaction with academic courses, attendance, and participation in cocurricular activities, and student achievement is enhanced by satisfaction with these factors. Perhaps key to the small secondary school size effect is the notion of "manning." "Manning" occurs when few students are available for many activities and consequently, the student who would be marginal in a larger school

receives entry to participate. Because of this, the otherwise marginal students become more like their desirable counterparts. Consequently, student achievement has been found, on average, to be higher in smaller high schools, particularly among otherwise poorly achieving students (Fowler 1992, pp. 15–16). Reports that have assessed the impact of school restructuring on academic achievement and student engagement among 11,794 tenth graders also find that students' gains in achievement and engagement were significantly higher in schools with restructuring practices and were associated with smaller high schools (Lee and Smith 1995).

High-performing schools with middle grades are developmentally responsive. Such schools create small learning communities of adults and students in which stable, close, and mutually respectful relationships support intellectual, ethical, and social growth. They provide comprehensive services to foster healthy physical and emotional development. (From Vision Statement, National Forum on Middle-Grades Reform, 1998.)

Small School Size Can Promote Developmental Responsiveness

Personalization is a major reason for many middle level practices and programs, including small teams and advisory programs. The rationale is that more personalized practices allow for a better matching of programs to the needs and characteristics of the students, and best promote positive student–student and adult–student relationships. Is personalization developed to the same degree in large schools that adopt practices such as teams, schools-within-schools, or houses and advisory programs as in small schools that may or may not have these programs? Does size of the school promote or inhibit the ability of adults in the school to best develop programs to continue to be responsive to the needs and characteristics of the students they serve?

As I travel throughout the county, principals acknowledge that when their schools get larger (and many of them are getting larger), they know fewer students' names, interact with fewer students on a personal level, spend less time in classrooms and teacher planning meetings, spend more time on supervision issues, and develop fewer and more superficial relationships with staff, parents and students in the school community—even if they have effective teams and advisory programs in place. Teachers acknowledge that they may know the students in their team well, but the larger the school, the less they know the students and teachers in other teams, which diminishes their ability to be responsive to all students in the school.

High-performing schools with middle grades are socially equitable. They have high expectations for all their students and a passionate commitment to helping each child produce high quality work. (From Vision Statement, National Forum on Middle-Grades Reform, 1998.)

Small School Size Can Promote Social Equity in Middle Level Schools

Schools serving large proportions of either advantaged or disadvantaged students tend to be significantly larger than schools serving a student population that is neither particularly advantaged nor disadvantaged. One reason schools serving educationally and economically advantaged student populations tend to be significantly larger than the average school is that these "advantaged" schools are often found in fast-growing or high-status neighborhoods where school construction programs cannot keep pace with neighborhood growth. Further, when parents are given a choice of schools within their district, parents of advantaged students flock to schools with outstanding reputations or special programs and, as a result, these schools are typically filled to capacity and have long waiting lists.

Different factors help keep enrollments high in "disadvantaged" middle grades schools. These schools are more likely than other schools to be located in densely populated urban neighborhoods, and parents in these neighborhoods have limited financial resources and inadequate transportation options for sending their children to a private or to a public magnet school outside the neighborhood (Mac Iver and Epstein 1993, p. 522).

School size also contributes to tracking practices. The grade size and number of grades in a school affect whether and how students are grouped within and between classes and within and across grades. Smaller schools are more limited in how they can group and regroup students or assign teachers to grade–specific and exploratory or elective classes. Consequently, grouping by ability is least likely to occur in middle grades in K–12 and K–8 schools that usually have only one or two classes per grade level, and most likely occur in large 7–9 junior high schools. Grade and school size do not determine whether instructional approaches are responsive to early adolescents. Use of recommended approaches to engage students can occur in classrooms in small and large schools (Epstein and Mac Iver, 1990a). It appears that small school size contributes to the recommendation to eliminate tracking practices found in numerous middle level reform reports (Carnegie Council on Adolescent Development 1989; California State Department of Education 1987; NMSA 1995; NASSP 1985; Oakes 1985; Wheelock, 1992).

School size can also diminish the disparity of educational outcomes of students based on their socioeconomic background (SES). Research on high school size suggests that the influence of school size on learning is different in schools that vary by student SES, and in schools with differing proportions of minorities. Enrollment size has a stronger effect on learning in schools with lower–SES students, and also in schools with high concentrations of minority students (Lee and Smith 1995). In general, studies find that students in low–SES communities perform much better in small schools, whereas students in high–SES communities perform somewhat better in large schools (Howley, 1994). In one of the few studies on size in middle level schools, analysis of data from the 1989 Alaska Statewide Student Testing Program for grades 4, 6, and 8 shows that, given similar school resources, school climate, and student academic background, the negative effect of a disadvantaged background on achievement was significantly less in small than in medium or large schools (Huang and Howley, 1993).

Small School Size Can Promote Effective Leadership

Leadership in the school is a paramount prerequisite to increase capacity and will for school reform, regardless of school size. Effective leadership can best be developed in smaller schools and smaller districts.

So, what if the trend toward large schools continues? Can large schools overcome the odds and still be high–performing schools? Yes. Some large schools have accomplished

this feat, although they are too few in number, and certainly not the norm.

How have these schools overcome the barriers presented by large school size? "Strong leadership" appears in virtually every list of attributes of successful schools. Building leadership is crucial to effecting change. The principal must be a true leader—not an autocrat, but a motivator, a helper, a problem solver, a risk taker, and a visionary; in other words, a model (Crockett, 1992, p. 75). "Without steady leadership support, even the most successful reform efforts wither and die" (Lipsitz et al., 1997a, p. 539).

What do long–term school reform leaders view as their essential professional competencies? *In The Role of Leadership in Sustaining School Reform: Voices from the Field* (USDOE, 1996), leaders identified key dimensions of leadership for sustaining reform in five general categories:

1. *Partnership and voice.* Effective reform leaders cultivate a broad definition of community and consider the contribution that every member can make to helping children meet challenging standards.

2. *Vision and values.* Effective reform leaders are dependable and committed "keepers of the dream" and as a result of keeping the dream, adopt key values around a collective, continuously evolving vision that is student centered and focused on ambitious academic goals.

3. *Knowledge and daring.* Effective reform leaders develop relevant information bases and cultivate human resources to minimize failure while encouraging carefully calculated risk–taking; they regularly increase their capacity to make good decisions.

4. *Savvy and persistence.* Effective reform leaders know how the system works and they handle a lot of resistance if they must. They find ways to win cooperation, are good managers, know how to interact with various policy and decision makers, and maintain a network of supporters to lean on in times of particular stress.

5. *Personal qualities.* Effective reform leaders put to good use an array of personal qualities that many perceive as innate rather than acquired, including passion, humor, empathy, wisdom, common sense, patience, strength of character, creativity, reliability, and trustworthiness.

In a study of urban school change initiatives, principals' support for a reform initiative was a near prerequisite for its success. Active involvement of the principal characterized

"high implementation" schools, and conversely, outright failure of the program was associated with low principal involvement. Effective principals were able to promote collegial interaction that in turn nurtured the trust undergirding cooperation and collective accomplishment. These principals empowered school staffs, created a climate of trust and respect, supported teachers to take risks, and provided the inspiration and push needed to undertake the difficult change process (Useem et al., 1997).

So, one could ask, "Why not get more effective principals into large schools instead of promoting smaller schools?" Because, some of the most successful principals and school leaders will point to small school size as a primary reason for their success. For example, Deborah Meier, former principal of Central East School in New York City's East Harlem, created a school in which "less was more." She believed that keeping the school small, and smaller and fewer classes meant increased individual attention and a deeper understanding of subjects. She proved her point by providing astonishing numbers, "given the secondary school's impoverished surroundings, 90 percent of the graduates went on to college, some of them to Ivy League schools" (Wulf 1997, p. 69). Perhaps most important to the issue of leadership is that small schools have the capacity to continue to move ahead after the school leader leaves. Such is the case of Central East Secondary School, where "teachers say the school has actually got better in some ways since Deborah Meier left" (Wulf, p. 69).

Deborah's comments are echoed by principals with whom I have conversations throughout the country. Most recently, in New York City, N.Y., Atlanta, Ga., Providence, R.I., Lincoln, Neb., Ocean City, Md., San Diego, Calif., and in conversations with NASSP Advisory Council members representing all regions of the country, principals have agreed unanimously that it becomes increasingly difficult to be instructional leaders and institute meaningful reform the larger their schools become. In the same breath, however, they will say that it is also difficult to promote smaller schools when larger schools receive significantly more resources.

Smaller Schools Are More Responsive to the Needs and Characteristics of Today's Young Adolescent

Middle level reform is characterized by its responsiveness to the needs and characteristics of young adolescents. During the past 25 years, a clear picture of early adolescent development has emerged. Educators and researchers have begun to recognize early adolescence as a period of development that is unique and distinct from late childhood and later adolescence and adulthood. This stage of development is now being seen as one of dramatic change that brings both multiple stressors and new possibilities for growth.

Almost 20 years ago, Lipsitz (1980) defined the needs and characteristics of adolescents upon which many of the current middle level practices and programs are based:

- Individuality—a diverse group, with unique physical, intellectual, and emotional characteristics
- Self–exploration and self–definition—a need to establish an identity and place in society
- Physical activity—a need for freedom to move
  competence and achievement—a need to gain a sense of accomplishment as well as independence and responsibility
- Structure and clear limits—a need to know the parameters for actions and behaviors and how far they should go in their desire to experiment
  positive social interaction with adults and peers—a need to make friends and develop support systems
- Meaningful participation in school and the community—a need to undertake worthwhile projects that help others (Lewis 1990, pp. 55–56).

In middle school reform, this understanding of needs and characteristics of young adolescents is translated into a set of practices—an orthodoxy of programs to meet these needs, including interdisciplinary teams, advisory programs, intramural programs, cooperative learning strategies, integrated curriculum, and positive discipline programs.

But, we are also learning about "new" needs and characteristics of young adolescents that will require additional responsiveness in middle level practices. For example, current research suggests that development occurs in multiple contexts, and these contexts interact with each other, and with the individual, to produce psychological adjustment and behavior (Lerner 1987). The research on the interaction of individuals and environments has already revealed interesting differences among students in their responses to the changes that occur during adolescence. For example, differences can now be identified between girls and boys, across ethnic groups, and in light of emerging brain research. As a result, current researchers are suggesting that a focus on the interaction between individuals and contexts in future research needs to include the school, home, and community (Urdan and Klein 1997). Certainly, the size of a school is a context to be examined.

In addition, we are fairly confident that by the year 2020, the majority of America's public school students will be living under conditions that place them "at risk" of educational failure. Although this is a projection, the trend toward even higher percent ages of poorly housed, malnourished, abused, and neglected children is inarguable (Irmsher, 1997).

Middle level principals and teachers are identifying changing demographics and increasing and different needs of young adolescents as major deterrents in advancing middle level reform. For example, comments from middle level schools in a 1993 study

focused on three categories of problems. One of these was "problems related to the changing demographics of school populations (i.e., many behavioral, social, or emotionally disabled students; support for at–risk students; high percent ages of students speaking primary languages other than English; and inadequate social services for students)" (McEwin et al., 1996, p. 108).

So, schools today are serving more diverse students than ever before, including children with limited English proficiency and children from a variety of racial and ethnic backgrounds. Nearly one–third of U.S. schoolchildren now come from ethnic or racial minority groups, with 6.3 million students from homes where English is not the primary language (USDOE 1993). An increasing number of children in U.S. schools come from homes with incomes below the poverty line. Others come from homes with a single parent or from situations where there is little stability in terms of caregivers. More children cope with physical, mental, or emotional disabilities. Social problems, such as poverty, drugs, and crime, are affecting children's health, safety, and readiness to learn, and are creating new demands for human services—demands that could increase with the implementation of welfare reform. Different kinds of children may require different methods of instruction and different programs to achieve at high levels.

Statistically, students with these characteristics are more likely to fall behind in academic achievement, to drop out of school, or to turn off from the whole process of education (USDOE 1993). Principals and teachers throughout the country are pleading for help to educate children who have different needs than they have experienced in the past. Yet, middle school reformers tell principals and teachers that they cannot blame the characteristics of today's students for poor school performance; rather, they suggest that schools should more aggressively implement the practices and programs that meet the needs and characteristics of young adolescents identified 20 years ago. Perhaps practices need to change because the needs and characteristics of adolescents have changed?

What are the governance, finance, and management implications of the demographic changes shaping education? Which strategies are most effective in helping young adolescents from diverse backgrounds achieve at high levels? Which are the best strategies for improving school safety and discipline? Research on school size at the high school level provides some insight into answers to these questions. In short, the research suggests that while small schools are better for all students, they are best for students typically defined "at risk." And, schools that serve a larger population of students "at risk" should be even smaller than other schools.

Two broad, overarching conditions seem to be typically present in schools that successfully serve "at–risk" students. First, these schools function as caring, cohesive communities. Consequently, they are characterized by 11 elements: shared vision,

participation, shared sense of purpose, caring, shared values, trust, incorporation of diversity, teamwork, communication, respect, and recognition. A strong sense of community is difficult to achieve in very large secondary schools. Second, they operate under standards similar to high-reliability organizations. Thus, they typically have three features: central goals are clear and widely shared; there is a belief that failure is disastrous; and, these schools are strongly supported by the community, the district's central administration, and state-level decision makers and program developers. Generally, because these schools are small, they have been able to develop the relationships, the capacity, and the will to create schools that are high-performing, even when their students may be more needy.

▶ Implications

Emphasize Middle Level Reform Rather Than Middle School Orthodoxy

There are more middle schools, and middle schools are becoming larger. On a recent visit to an urban city in Nebraska, I toured a new middle school facility. It was a beautiful facility, carefully designed to respond to middle school philosophy—to accommodate teams, technology, and a variety of exciting exploratory programs. The school was fondly referred to by the adults and students as a "shopping mall" and the principal needed a "walkie talkie" for communication purposes. A major challenge for the principal, reputed to be an excellent instructional leader who wanted to spend time in team meetings, was to supervise the six lunches necessary for the size of the student body. These facilities are being built, with great pride, throughout the country. John Goodlad—where are you?

The definition of middle "schools" presented in Alexander's 1968 study was "a school having at least three grades and not more than five grades, and including at least grades six and seven" (p. 1). The National Middle School Association (NMSA) defines "middle school" as "mainly 6–8 schools, but also 5–8, 5–7, and 7–8; based on developmental needs (social and academic) of young adolescents, organized by interdisciplinary teams, with flexible organizational structures, using varied learning and teaching approaches" (NMSA, 1995).

Our emphasis on middle schools began in 1963 when William M. Alexander called for a new school in the middle in a historic speech at the Cornell University Junior High School Conference in Ithaca, New York (Alexander, 1965). Since that time, separately organized 6–8 middle schools have been established throughout the United States, generally replacing (and outnumbering) the middle school's predecessor, the 7–9 junior high school and, more recently, eliminating grades 6–8 in K–8 schools.

Trends during the past two decades indicate a shift from junior high schools (grades 7–9)

to middle schools (grades 5–8 and grades 6–8). Trends also indicate an increase in middle schools serving grades 6–8. In a 1993 NASSP study, 65 percent of the principals reported that their schools had moved to a 5–8 or 6–8 grade level configuration, as compared to 25 percent in 1981 (Valentine et al., 1993). The total number of schools serving grades 5–9 grew from 10,395 in 1970 to 13,543 in 1995 (Alexander and McEwin 1988; Digest of Education Statistics 1995); from 1970 to 1987 schools with grades 6–8 **increased 160 percent.** Some of this increase has been due to 6–8 schools drawing grades 6–8 from surrounding K–8 elementary schools.

Why the emphasis on middle schools? We provide mixed messages, but usually suggest that middle schools are necessary for middle level reform to take place. It is generally agreed that public middle schools are somewhat more likely than other public schools to adopt the supportive structures and responsive practices that are recommended in middle level reform. Still, grade organization explains only a small proportion of the variation between schools in middle level practices or in student outcomes, especially after one controls for other variables such as school location, sector, and size that are somewhat confounded with grade span. Recent research suggests that, because of the wide variation in practices and outcomes found among schools with identical grade spans, "Grade organization is not a major, consistent determinant of whether a school is or is not successfully implementing the practices recommended by...influential groups or individuals concerned with the education of early adolescents" and "there is no one most responsive grade span for schools that serve early adolescents" (Mac Iver and Epstein 1993, pp. 521–22).

Nevertheless, several recent publications have suggested that middle schools are the ideal grade configuration for young adolescents. For example, it was reported that educators perceive that the 6–8 grade configuration is ideal for developmentally appropriate middle level programs (NMSA, www.nmsa.org, February 15, 1998a). When asked for the ideal grade configuration in a NASSP study, 72 percent of principals, 59 percent of assistant principals, and 65 percent of leadership team members chose the 6–8 grade configuration (Valentine et al. 1993). One reason for these perceptions may be that middle schools, more so than departmentalized junior highs, have made deliberate attempts to provide structures, such as teaming and advisor/advisee programs, that create smaller groups to foster caring relationships. Another reason may be that we regularly imply in language and literature that middle schools **are** ideal.

Despite regular statements by NMSA leadership, and others in the field of middle level education, that grade configuration is *not* a part of middle level philosophy, i.e.:

> *Nothing in the middle level philosophy can be interpreted as advocating school consolidation or the isolation of middle level students. Middle level education does not require a separate school building or*

a larger school; rather, it focuses on a student-centered philosophy grounded in the diverse characteristics and needs of youngsters ages 10 to 15 (Swaim, 1996).

The authors of a major publication on middle schools, published by NMSA (McEwin et al., 1996), recommend "Grade organization decisions should be driven by the developmental characteristics, needs, and interests of young adolescents rather than by expediency. Middle schools should house grades 5–8 or 6–8" (p. 131).

Interestingly, size has **not** been an issue addressed in middle level research or in recommendations to house young adolescents in middle schools. "There is no research base that clearly demonstrates that one particular size student population is inherently better than another size student population" (McEwin et al., 1996, p. 131). However, in noting the growth of middle schools, these authors point out that while the percent age of middle schools with enrollments between 401 and 800 had remained rather constant over the 25 years considered in their study, the percent ages of small middle schools (fewer than 401) had decreased, and large middle schools (more than 800) increased. Again, larger middle schools appear to be the trend.

There appears to be some confusion as to priorities. For example, there is the recent recommendation that school populations in middle schools "be kept in the 400 to 800 student range" (McEwin et al., 1996, p. 132). Yet, it is also clear that the priority should be on continuing to establish "separately organized middle schools where professional personnel focus directly and exclusively on the needs, interests, and characteristics of young adolescents" (p. 133)—even though it appears that the increase in middle schools is also resulting in a trend toward larger schools for young adolescents.

Despite the increase in larger middle schools in our country, research shows that significant numbers of middle schools do *not* implement middle level reform recommendations. Too many middle schools "continue to follow unsuccessful and inappropriate practices such as departmentalization, rigid scheduling, and tracking, while failing to implement effective programs for middle level students such as interdisciplinary team organization, flexible scheduling, and interdisciplinary instruction" (McEwin et al., 1996, p. 156). Why has progress been so slow and uneven to implement middle level reform in middle schools despite the fact that there is such an abundance of research on effective schooling practices for young adolescents? I would argue that it is because we are espousing middle schools that are increasingly becoming larger, and consequently have less capacity and will to accelerate middle level reform.

Perhaps because of this lack of progress, public confidence in middle schools is waning. For example, a recent editorial in the Newark, N.J., *Sunday Star-Ledger* (January 11, 1998) entitled "Let's End Middle School" reflects sentiments of some parents about middle schools:

> *Who decided that the concept of middle school for children from age 10 to 14 was a good idea? At the very time when children are most insecure, they are forced to leave a familiar environment where they know the teachers, their classmates, and the school to go to a new school in which they have to begin all over again... Who decided that the K–8 school was an outmoded concept and children needed to be separated from younger children when they reach pre–adolescence? (Devlin, p. 16).*

Middle schools may be the best vehicle for accelerating middle level reform—but, they certainly have not proven that to date in the way of consistent results. National and international studies attest to the intellectual underdevelopment of too many young adolescents. For example, only 28 percent of eighth graders scored at or above the "proficient" level in reading in 1994, and just 2 percent read at or above the advanced level (NAEP 1994). According to the TIMSS data (1997), U.S. seventh and eighth graders ranked 28th in mathematics skills and 17th in science proficiency among comparable students in 41 countries. At all grade levels, poor academic achievement is especially prevalent in middle–grades schools serving high concentrations of low–income students (Lipsitz et al. 1997b). An *Education Week* report (January 8, 1998) points out that in reading, math, and science, only about 40 percent of eighth graders who attend urban schools scored what educators consider a "basic" level of achievement on the NAEP. Too few middle schools appear to be enabling the majority of their students to achieve at anywhere near adequate levels.

Small schools have demonstrated results, even if they are not middle schools. It would be interesting to compare the results of small middle schools with large middle schools and small middle schools with small schools of other grade configurations (i.e., K–12, K–8) that serve young adolescents. Are small middle schools the answer? If so, why are we creating more larger middle schools?

A More Effective Approach: Emphasize Middle Level (Middle–Grades) Reform—Regardless of Grade Configuration

Twenty–eight years ago, the Ford Foundation commissioned a study of the status of research and programs that concerned early adolescence, the age group that had been overlooked in research and services. Most professionals and policymakers were unaware of this void at the time.

Since the Ford report (Lipsitz 1980), there have been other significant middle level reform reports. For example, *Turning Points*, issued in 1989 by the Carnegie Corporation's Council on Adolescent Development, was organized around eight core principles for middle level reform:

1. Divide large middle–grades schools into smaller communities for learning that foster trusting relationships between adults and peers.

2. Provide all students access to a common core of high–level knowledge and skills.
3. Organize instruction to ensure success for all middle–grades students.
4. Empower teachers and administrators to make key pedagogical, management, and budgetary decisions.
5. Prepare middle–grades teachers specifically to teach young adolescents.
6. Improve academic achievement through better fitness and health.
7. Reengage families in the education of young adolescents.
8. Connect schools with communities.

Other noteworthy reports that espouse similar recommendations include *Agenda for Excellence* (NASSP 1985) and *This We Believe* (NMSA 1995). All these reports recommend programs and practices that best match the identified needs and characteristics of young adolescents, 10–15 years of age, regardless of the grade configuration of the school.

One reason that schools serving middle level students are not achieving desired reform results may be the complexity of the needed reform. Evolving research suggests that practices implemented independently of one another (i.e., teaming, advisory, flexible scheduling, school–based decision–making, parental involvement) are likely to produce little or no significant rise in student achievement, especially for disadvantaged youth. Not until a critical mass of reforms are in place and operating together in an integrated manner do significant positive changes in student outcomes occur (Lipsitz et al., 1997b).

Evolving research also suggests there should be a "sequencing" for successful implementation of school reform efforts. Initially, bringing about key changes in leadership and in staff attitudes about the importance of the recommended practices, and achieving critical shifts in the operational norms and structures of the school, will result in larger and more rapid changes in the implementation of elements relating to teaching/learning practices and school characteristics recommended in middle level reform literature (Felner et al., 1997a, pp. 541–42).

So, it appears that successful middle level reform must be comprehensive and integrative, with careful attention to sequencing and establishing building blocks on which other elements can be placed. One of the major overarching findings of current research is the importance of considering the comprehensiveness and level of implementation of middle level reform recommendations. In other words, the greater and more comprehensive the implementation, the more impact it has on positive student achievement and school climate (Felner et al., 1997a, pp. 543–44). Because of the complexity and comprehensiveness of reform needed at the middle level to produce results, does size of a school play a factor in the efficiency and effectiveness of implementation of reform recommendations? I believe it is easier to do the complex

work of school reform in smaller schools.

The principle of "creating small communities for learning" is an excellent example of the need for implementation that is "idea–driven," comprehensive, and integrated. Teaching teams are generally used in middle level schools to help create small communities. However, teams can range from 2–3 teachers with 60–70 students, to teams with 9–12 teachers and more than 240 students. The amount of common planning time and the use of this planning time appear to be critical elements of small learning communities, but this can range from no common planning time to the shared use of individual planning times, to daily common planning time in addition to common individual planning times. In one longitudinal study, size, student/teacher ratio, and the amount and use of common planning time all appear to have a significant effect on the degree to which other reform elements (i.e., interdisciplinary instruction and student advocacy) may be accomplished (Felner et al. 1997a). Do smaller schools promote smaller teams? More planning time? Better utilized planning time? Smaller class sizes? Certainly they did in my experience, and in the experience of principals I talk with who have small schools in rural areas.

There also seem to be critical levels of implementation below or above which changes make little difference, and size is a significant factor. For example, "Teams that exceed approximately 120 students, that have fewer than four common planning periods per week, and that have student/teacher ratios beyond the middle 20s tend to show little impact on instructional practices or student well–being" (Felner et al., 1997a, pp. 547–48). Certainly, it appears that the issue of creating small communities of learners (whether through teams, schools–within–schools, multi–age groupings, or small school size) should be at the top of the future research agenda because of the apparent ability of this one reform to increase the capacity for the implementation of other reforms.

Create a Unified, Broader Approach to Middle Level Reform by Emphasizing Smaller Schools at All Levels

Despite popular demand, developing a "unique" middle school identity may, in fact, decrease the capacity and will of a broader range of schools serving young adolescents to develop and create a unified approach to reform. A united voice calling for smaller schools can help all schools increase their capacity and will to reform.

It has been argued that "identity" may be a key factor in improving both the quality and the amount of research pertinent to middle level education. For example, an NMSA study found that "achieving legitimacy for the middle school was the leading issue among its members. Educators voiced an imperative for middle level education to be recognized as a distinctly separate entity, not an addition to either elementary or high school education" (Irvin 1997, p. 7).

Yet, despite the perceived advantages of the uniqueness of the middle level reform movement, it appears that we have fallen short of our standard to this point. Some are suggesting that to accelerate middle level reform, we should convert to K–8 schools. "Middle schools are the wasteland of our primary and secondary landscape. The anonymity and rootlessness of middle school is replaced by a feeling of community and social support typically found only in American elementary schools, and the increasing emphasis on academic content associated with the advance into secondary education starts to flow down into the elementary grades" (Tucker and Codding 1998, pp. 151–52).

Perhaps middle level reform is slow to take root in schools because of our own desire to be unique. Seymour Sarason (1990) notes that there is a critical need for "a central idea, a big idea, that radiates out and magnetically attracts and connects other ideas" if school reform efforts are to have any hope for success (Felner et al. 1997b, p. 522). In reality, the ideas of middle level reform, while evolving to match the unique needs and characteristics of young adolescents, are *not* so unique to the middle level.

So, instead of promoting "uniqueness" of middle schools as a method to advance middle-grades reform, would it be more advantageous to promote the philosophical underpinnings of middle level reform as a method to advance schooling for all students, especially students in secondary schools and in schools serving young adolescents, regardless of the grade configuration? And especially if schools are small?

There is a compelling need for various groups–educators, policymakers, parents, community members, researchers—to come together, to *Speak with One Voice* (Lipsitz, 1997a) if middle level reform, and school reform in general is to accelerate to the desired level. It has been widely acknowledged that reform agendas confront a fragmented, complicated system of education decision–making that involves many different agencies and levels within agencies and provides few incentives for lasting change. While various agents push one new approach or the other, teachers close their classroom doors and teach as they were taught. We are learning that no single solution exists for the problems of U. S. schools. We are also learning that reform can only succeed if it is broad and comprehensive, attacking many problems simultaneously. Practitioners who are in the process of reforming are often confused because of the lack of unity of message they receive from various entities who claim to exist to assist them. In reality, it is imperative that we collectively decide what areas will best enhance the capacity and will for change.

Key leaders are exploring smaller schools. In California, the governor recently proposed to limit enrollment in middle schools to 750 students. Los Angeles, Calif., Albuquerque, New Mex., Clark County, Nev., and Philadelphia, Pa., are all exploring downsizing to create smaller districts and smaller schools. Chancellor Rudy Crew of New York City recently backed off mandating smaller schools. These leaders need our collective

support—and our best ideas. For example, we have evidence that we can create small, autonomous schools with their own leadership in existing large facilities. And, we have the opportunity to suggests that dollars will be well spent limiting the size of future facilities.

▶ Applications

Decision makers care about what works. They also care about public sentiment. Research can help policymakers invent what they need to advance the reform agenda, but only if research is focused on the right questions and conducted in a useful way. A major area of interest to policymakers is "How can policymakers develop reform agendas that are acceptable to a majority of citizens without reducing their proposals to the lowest common denominator? How can they build public consensus for long–term reform that may entail difficult or uncomfortable changes? What specific policies can decision makers adopt that can help build public confidence in public education? How can educators and policymakers use reform policies to generate stronger support for education funding among the electorate? Which policies are most effective in strengthening relationships between schools and parents and showing more responsiveness to parent concerns?" (USDOE, August 1997). We have the ability to inform decision makers, and reflect public sentiment.

- The public desires safe schools—schools that are small enough to show that they care about and can demonstrate success with their children's education. Small and urban schools can provide particularly profound lessons for all public schools because of the immense challenges they need to overcome.

- Middle level reform can look to strategies that have proven successful in urban schools: raise the bar, make performance count, let leaders lead, recruit for success, support your local teacher, build strength at the top, go the extra mile, reach out, **think small**, fix the roof, encourage competition, and don't reward failure (*Education Week*, 1998).

- We can collectively support the downsizing of large school districts, and of large schools within these districts. We can offer creative ideas about how to best utilize existing large facilities and still create autonomous small schools.

- We can continue to prioritize making large schools feel small by effectively instituting practices such as small teams, schools–within–schools, houses, and multi–age groupings, where students remain with teachers for more than one grade span—but also emphasize that these practices don't, in and of themselves, create the necessary capacity and will to accelerate middle level reform.

- We can encourage districts to keep small K–8, K–12, and 7–12 schools, while also encouraging them to implement appropriate middle level reform

practices for young adolescents who attend, as opposed to creating large middle schools to houses students in grades 6–8.

- Millions of dollars will be spent on new and renovated school buildings in the next few years. Ultimately, decisions will need to be made on how to create and remake buildings that best facilitate the type of schooling the public desires. Dollars can be spent on large or small schools. Communities throughout the country, even in big cities, are becoming innovative in how to use limited properties to create small schools. We need to publicize these efforts! And, we need to demand that schools be built to house no more than 600 students, and fewer in certain communities.

- At a time when there is a shortage of principals, we can better insure more motivation for potential leaders to enter the field by providing them with a situation (smaller schools– with adequate resources) that will provide more opportunity for success––and less stress!

▶ Related Research Questions

- Questions have been raised, and implied, throughout this paper suggesting research to identify how to best increase the capacity and will to accelerate middle level reform. Some of these questions would include: For example:

- What structures are in place in high–performing middle level schools that allow them to implement reform more quickly and more easily?

- What role does school size play in the ability of schools serving young adolescents to implement programs that best match their needs and characteristics?

- What are the implications to middle level schools of emerging and new characteristics and needs of young adolescents?

- What role does, and should, leadership play in accelerating middle level reform?

- How can systems best implement structures that increase the capacity and will of educators to implement necessary reform?

- What practices do the public most endorse, and how can schools achieve the best outcomes for students by working with the public to implement these practices?

- Both small schools and detracking policies achieve the same outcomes–which would be most acceptable to the public?

- How should we best expend dollars on school facilities in the future?

- What are creative ideas for how to create small schools in cities that believe they need large schools?

- How can various entities best come together to provide a common, unified message and vision to the larger public to gain support to accelerate school reform, including middle level reform?

- To what extent is research on school size at the middle level compatible with research on school size at the elementary and high school levels?

There is no shortage of suggestions for future research in the area of middle level reform. Studies, journals, and recent publications have suggested "imperative" research questions for the next decade. Many of these suggestions are in the area of continuing to identify practices and programs that are most effective for middle level schools (See, especially, NMSA 1997, pp. 11–25).

Others suggest looking at how to increase capacity and will for middle level reform, and are mentioned briefly here:

1. There is a noticeable lack of empirical studies and research evaluating the effects of school restructuring on student outcomes. Very little of the current understanding of restructuring efforts has come from studies of what is actually happening in districts, schools, and classrooms that are engaged in reform. There is a clear need for additional research that directly addressed the process of middle–grades restructuring and its impact (Felner et al., 1997b; Mac Iver and Epstein, 1992).

2. Various obstacles to becoming effective middle schools have been cited in studies of 1968, 1988, and 1995 (McEwin et al., 1996, p. 150). To what extent can these problems be reduced or eliminated by reducing the size of schools? Are there other measures to reduce/eliminate these problems to accelerate middle level reform?

3. Do charter schools, public schools, and parochial schools provide models of educational programs and strategies that could be adopted by public middle level schools? For example, in what ways do charter schools exercise

autonomy (including curriculum and instruction, personnel, budgetary, governance, assessment, and student attendance, discipline, and selection), from what agencies, and how does charter school autonomy compare to that of other public schools? (USDOE May, 1997).

4. What are the effects of school size on academic performance, retention, morale, vandalism, student behavior, parent involvement, and efficient use of time? (USDOE, 1994).

5. Do "signature practices" of middle level philosophy (Mac Iver and Epstein, 1992, p. 529) rise more in middle schools than in other schools that have middle grades? Do these practices occur more rapidly in small schools? Do they not occur in small schools because there is need for them because their small size accomplishes the same purposes?

6. What supportive systems are needed to create excellent middle grades programs for all students? How do we best collectively promote more students who are not only successful in the middle grades, but also in high school and beyond? (Mac Iver and Epstein, 1993, p. 530)

7. Policymakers and leaders have identified four broad areas where they feel additional research is necessary to help them develop policies to advance reform: issues related to the inputs and outcomes of education; issues related to the structure and process of education; issues related to the core of teaching and learning; and issues related to the broader context of education (USDOE, August 1997). How can we suggest research in middle level reform that will best inform policymakers and assist them to achieve public consensus?

▶ Conclusion

An abundance of research exists on effective practices to ensure high-performing middle level schools for young adolescents. Despite this research, too few schools serving young adolescents are implementing these practices. Research at the middle level needs to focus on how to best help practitioners develop the capacity and will to implement practices that are known to produce positive outcomes for students. Suggestions for this research include: emphasize middle level reform rather than middle school orthodoxy; embed a shared and common vision for high-performing middle grades schools; reduce the size of schools that serve young adolescents; instill necessary leadership; and create a unified, broader approach to middle level reform.

Research on school size, primarily at the elementary and high school levels, in particular, holds promise for reforming middle level schools. Small schools can better become

high–performing schools; small size increases the capacity and will to achieve academic excellence, developmental responsiveness, and social equity. Small schools in small districts also are better able to increase the capacity for necessary leadership for reform.

The relationships of these suggestions to research in the areas of interpersonal development, classroom structure, school organization, and parents/community are implied throughout the paper. Informed research around capacity and will to accelerate middle level reform will not only assist practitioners at the middle level, but will also help educators in general and policy and decision makers to accelerate the creation of schools that ensure more desirable outcomes.

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CHAPTER FIVE

Parent and Community Involvement in the Education of Young Adolescents

Joan Schine

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▶ Introduction

> *By the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children (National Education Goals Panel, xvii).*

> *The task of assuring the success of our recommendations does not fall to the schools and colleges alone . . . [E]ven more important is the role of parents and students (The National Commission on Excellence in Education, 34).*

> *Families and middle grade schools must be allied through trust and respect of young adolescents are to succeed in school (Carnegie Council on Adolescent Development, 22).*

> *Reengage families in the education of young adolescents by giving families meaningful roles in school governance, communicating with families about the school program and students' progress, and offering families opportunities to support the learning process at home and at school (Council of Chief State School Officers 3-4).*

> *I believe that a good parent is a national treasure, and that we need to make parents and families partners with their children's teachers and principals (Richard Riley, U.S. Secretary of Education, 1994).*

It would seem, judging from the pronouncements emanating from influential and respected organizations and individuals, that parent involvement in education has been accorded a place next to motherhood and apple pie as an American icon. With such general support from a variety of gatekeepers and policymakers, we might expect to have seen a burgeoning of parent involvement in schools across the country. But statements of intent, or the establishment of a goal, will not alone change behavior. The complexity of life for most families with school-age children, pressures of earning a living, changing family structures, and changing demographics combine to leave little time or energy for families to engage in the traditional processes of involvement. And when those families include a child of middle school age, parent involvement may be still further limited as parents try to deal with the adolescent's drive for autonomy. Other barriers will be addressed as we explore the types and possible benefits of parent involvement in the education of early adolescents.[1]

In any case, while we may easily agree upon definitions of motherhood and apple pie, it is difficult to find consensus on the meaning of parent involvement. Often individual bias or a special interest group's agenda colors the interpretation of the term. Joyce Epstein and Lori Connor suggest that "the term 'school and family partnerships' better expresses the shared interests, responsibilities, investments, and overlapping influences of

[1] Although the term "parent" will be used throughout this paper, it should be understood that it may be used to refer to a guardian or other adult family member.

families and schools in children's education through adolescence . . . [because] the two institutions share major responsibilities for children's education and both are needed. (Epstein & Connor, p. 140.)" For many schools, however, and for many parents, the view of relationships between parents and school that prevailed prior to the 1960s, when "Most families were expected to deliver their children to the schoolhouse door and then go home while educators did their jobs," is still the standard, says Elena Lopez of the Harvard Family Research Project. Moreover, "when parents were asked to get involved, the focus was usually very narrow. For example, they might be invited to work in the office or to raise money through bake sales." (Lynn, 1987)

The parent involvement model of the sixties has as little relevance for the nineties as the fashions or the popular music of that time. Families have changed; we may question whether the image of the two-child family, with mother a full-time caregiver and homemaker, and father the breadwinner, was ever an accurate one, but today it bears little if any resemblance to the reality. Middle school students come from single-parent families, from families where both parents work outside the home, from households where a language other than English prevails, families where a grandparent may be the primary (or only) adult. They may live at home in a culture that has its roots in another continent and in a society with customs and values sharply different from the culture of their school and neighborhood. Even in the most stable of communities, the school population, too, has changed, reflecting the altered demographics of the country as a whole. Moreover, the changes don't stop at the classroom door; new technologies, the need to provide for inclusion of students with disabilities, revised curricula, emphasis on higher order thinking skills, and—most recent and perhaps most controversial—the introduction of statewide standards, combine to make even the most knowledgeable parents feel at times that their student's world has moved beyond their grasp.

With accelerated change on every front, the challenge to schools seeking meaningful family involvement is to find ways to respond to a diverse population with a wide range of interests and anxieties, to provide the information that families seek, and to recognize that they share with the students' families a commitment to enabling every child to succeed. Families, too, are challenged to make common purpose with the school, provide the information that will help the school serve their child, and collaborate with the school and with other community members in support of that shared commitment.

In proposing "partnership" as the preferred term, Epstein and Connor discard terms such as involvement or home/school relations, suggesting that "'partnership' expresses a formal alliance and contractual agreement to work actively toward shared goals and to share the profits or benefits of mutual investments." At the same time, they point out that "There are no shortcuts to the process of developing partnerships and improving programs. Experience shows that three to five years are needed to build strong

partnerships in schools with all families, and even more time is needed to assure a lasting structure of successful practices . . ." (Epstein and Connor, 140) The concept of family/school partnership, implying as it does an equal stake for each of the partners, goes well beyond traditional models of parent involvement. The term "Collaboration," on the other hand, is not necessarily an alliance of equals, and as school and family deal with assorted issues or interests, one party may achieve power at the expense of the other.

▶ Why Parent Involvement?

Whatever the terminology, there is strong support for connecting schools and families. Research has shown that when a child's family is involved with the school, there are positive effects in many areas. "Studies conducted over the last 30 years have identified a relationship between parent involvement and increased student achievement, enhanced self-esteem, improved behavior, and better school attendance (Mapp, 1977)." It would be logical to assume that family involvement in their children's schools would be widespread. Instead, parent/family involvement even at the K–3 level falls far short of the Goals 2000 goal of 100 percent; and in 1995 the National Education Goals Panel reported that the percentage of parents who are involved in their children's schools drops sharply by eighth grade.

There are many motives for family involvement. Some are shared by the schools and the families, others speak primarily to the concerns of parents or schools alone. The latter is particularly true where an adversarial relationship has developed. The reasons for forming partnerships range from the apparently simple one of exchanging information to establishing or sustaining complex governance structures. In some schools, parents are seen as a resource, serving as volunteers, sharing expertise or knowledge. In others, they may function as potential political allies, lobbying for passage of a bond issue, for more resources, or even for specific programs. For parents, the child's entry into middle school may serve as a reminder that decisions made today will affect the student's educational and career choices, motivating them to seek information and assistance from the school. Parents who, for whatever reasons, are dissatisfied with the school, may become involved out of a desire to effect change.

Sometimes there is a parents' organization that operates within the school, but has little relationship to the teaching/learning or governance activities of the school. In others, although the rhetoric of parent involvement may be employed, the implicit message that reaches parents suggests that the school can get along without them. Even a prior history of participation in the elementary school is no guarantee that parents' active involvement will persist in the middle school. Parent participation is mandated in Headstart Programs, and schools receiving Title I aid are required to form a Title I Parents' Council. Only a small percentage of families become engaged in those structures, and there is scant evidence that their continued involvement is any greater than the average when they leave these groups.

Nevertheless, by far the most important reason for parent/school partnership is, of course, "to help all youngsters succeed in school and in later life." (Epstein, 1995a)

Implications for Involvement in the Middle School Years

The goal of parent/family involvement in the middle school, as at any other time in the years of schooling, is of course to support student achievement. But beyond that broad purpose, the goals of family involvement vary according to the school's own central mission, the values and aspirations of the parents, and the demographics of the school community.

In addition to supporting student success, family/school partnerships should provide an easily accessible channel for open communication between home and school. The school can help parents understand the developmental needs of their children as they make the transition from childhood to adolescence; the rationale behind the curriculum and school procedures can be made clear, and if parent involvement is truly desired, the school staff will use a variety of means to learn what parents need and expect from the school. Often a history of adversarial positions, or at least a legacy of mutual distrust, must be overcome before a strategy that will address these concerns can be implemented.

School councils that include parents in their membership have recently emerged as part of the effort to locate decision-making as close as possible to the program and population affected by those decisions. School councils that have meaningful parent representation typically have equal numbers of teachers and parents. Often, training precedes the formal establishment of the council. In some instances, the parent role in governance and decision making is a matter of school policy rather than a mandate from school board, state, or funding source. When there is commitment at the building level, there is likely to be less conflict over issues of power and "turf" than is true when governing bodies are constituted as a response to a directive from a government department or other agency at a remove from the school. In this context, it will be useful to look at one school-based approach to comprehensive parent involvement in a middle grade school.

O'Farrell Community School in San Diego, from the time of its opening in September 1990, has made meaningful parent involvement a priority. A variety of options are open to parents, from serving as paid consultants (made possible by a special grant) on such matters as a review of the report card content and form to joining a "Saturday Retreat" on the school's goals and methods in the teaching of reading, or participation in the governing board, known as the Community Council. Thus, when the school needed to find a successor for its founding "Chief Educational Officer," the Community Council, "pretty much ran the show," says Byron King, who now holds that position.

King and the O'Farrell staff have had to come to terms with the fact that if involved parents are truly important for the school's success, they will have to arrange meetings to

accommodate the realities of the parents' lives. For example, although staff would have preferred to hold Community Council meetings at the end of the school day, this would have excluded many, if not most parents from participation. The Council therefore meets at 6 p.m. In the same spirit, says King, the Saturday meetings are "based more on listening than on telling parents what to do." King says, however, that in spite of careful planning, and sincere efforts to bring parents and school closer, many families remain on the periphery of the school community. "This is not a success story . . . We have a substantial number of military families, families with 2 parents working and a non-English-speaking grandmother in charge, children from foster homes, single parent families, many transients . . . The mission of urban schools has changed; we need to make families whole again—or keep them whole."

All of the reasons for involvement we have cited—and the list is far from complete—apply to home/school connections from kindergarten through high school graduation. But many parents of middle school students are uncertain of their role as their young adolescents journey toward independence. As Joan Lipsitz has pojnted out:

> *Probably the most discussed and distressing task during adolescence is the task of separation, including the capacity to function on one's own. . . . We misread many of the signals that adolescents give us. At the first sign of striving for independence, we assume that EVERYTHING is going up for grabs. . . . We fail to read those signals that adolescents are sending out to us that indicate their continuing need for dependence and emotional support (Lipsitz 1981).*

Even though it appears that the early adolescent prefers his parent to be invisible, what he really seeks is a redefinition of roles. Middle school educators and parents will need to arrive at ways of working together that support the student's learning and at the same time acknowledge his growing maturity.

Like Lipsitz, James Comer challenges the myth that parents should withdraw as their children reach early adolescence:

> *The nature of young children encourages parents and teachers to pay attention to their developmental needs even when it's informal and not a part of the instructional program. But we tend to declare middle and high school students "grown." We consider them responsible for their own behavior without creating school conditions that promote development and desirable behavior. In this complex age, young people need parent and school support for their development at the middle and high school levels as much as—perhaps more than—in elementary school . . . Parents, students, and staff working together can put the focus on teaching and learning, and on preparation for life in the real world. Cooperation should improve performance on the part of everyone (Comer 1994, 32).*

Experience demonstrates that parent involvement at the middle school level forges ties

between home and school, and that while the greatest benefit may accrue to one's own child, the school as a whole gains when parents and the professional educators become partners.

To form and sustain these partnerships in middle schools will require determination and patience; barriers to parent involvement exist within the school, and in the world beyond the school. Barriers, and some examples of programs that have surmounted them, will be discussed separately.

Varieties of Involvement

Often family involvement in the school begins with the child's need for an advocate. Then, moving beyond concern for his or her own child, the parent moves to concern for the class or school as a whole. From that point, and especially if there are strong community organizations dealing with youth development, the involved adult may move to issues of policy, budget, availability of resources, of curriculum—any factor affecting school quality and climate. If the school is unwelcoming, or insensitive to the parent's interests and needs, that involvement will probably be short-lived. On the other hand, a school administration and staff who are receptive, who, in addition to providing general information about the school and its purposes, respond to concerns about an individual child, lay the groundwork for collaboration or partnership.

Even where home-school partnerships have been reasonably effective in the early school years, the middle school drop in involvement occurs. The middle school years are transitional in many ways. A passage between the more nurturing and intimate elementary grades, and the more impersonal and institutional setting of the traditional high school, these years also see the child's transition from childhood to the period John Mitchell calls "middle adolescence." The school that offers parents accurate information and reassurance about these transitions—about the physical, emotional, and social changes their children are experiencing, and about what they may expect as they move to a different level in the school system, can be perceived as the parents' ally, at a time when many feel isolated. When the school offers sensitive support to parents, the parents, in turn, are more open to finding ways to support the schools. On the other hand, the school that creates, whether intentionally or otherwise, the impression that it is dispensing knowledge to the ignorant, that fails to acknowledge that the parent shares the school's goals for the child's success and in addition has a wealth of knowledge about his or her child, will only increase the family's alienation from the school.

A question that arises repeatedly in conversation with parents, administrators, teachers, policy makers, and others is "What roles are appropriate for parents in the middle school?" There is general agreement that the home's most important contribution to the child's success in school has not changed over time: When parents show interest in the school, are supportive of learning, provide time and place, and, where desirable,

supervision for homework, children are more likely to have a more positive attitude toward school and a positive school experience. Beyond that role, it is difficult to find agreement on priorities among administrators, parents, teachers, and school-related agencies (e.g., "outsiders" that work with the school to implement a particular program or project, or who make their services available in the school).

It is clear, however, that in several instances what appears appropriate from one group's perspective is seen in quite a different light by another. For example, one educator spoke of the "education junkies"—parents who made school involvement virtually a full-time occupation, and who, while serving the school as library volunteers, hosts or guides for newcomers and visitors, or supporters of new initiatives, also required disproportionate time and attention from the professionals. The selection and evaluation of personnel constitutes a particularly sensitive area, with some parents demanding a voice in all such decisions, while staff believes the parent role should be no more than consultative. No single factor, however, will determine the extent of the child's connection to the school. The school administration must find ways to reach out to the family that feels unwelcome in the school, the parent who remains an outsider because of limited English proficiency, the family in "transitional housing," (a not uncommon circumstance in urban areas) before parents can be expected to enter a partnership.

Identifying (and Overcoming) Barriers to Successful Family/School Partnerships

The National Center for Education Statistics commissioned Westat, a research firm, to gather information on "the ways that schools are engaging parents in their children's education and the extent to which parents are responding to the opportunities for involvement that schools provide." A representative sample of 1,000 schools serving grades K–8 was surveyed.

> *Given a list of concerns that might impede parent involvement in schools, the barrier named by the highest percentage of schools was lack of time on the part of parents (87 percent). Lack of time on the part of school staff created barriers for 56 percent of schools, and 48 percent said that lack of staff training in working with parents was a significant barrier. Lack of parent education to help with schoolwork, cultural/socioeconomic and language differences between parents and staff, parent and staff attitudes, and safety in the area after school hours were considered barriers in a higher percentage of schools with poverty concentrations and minority enrollments of 50 percent or more than in schools low on these characteristics (National Center for Education Statistics, iv).*

Families and teachers may order the list of major impediments to establishing family/school/community partnerships differently, and while there will be some overlap, some items will be noted by one partner and not the other(s).

Different cultures, different words. Many misunderstandings arise from the lack of a common vocabulary. One parent advocate spoke of the Asian parent who, on asking where a particular problem could be handled, was told that she should speak with the counselor. The parent, having been taught "British English" in her country of origin, was intimidated by the idea that she now needed to deal with the law. We can assume that such misunderstandings occur daily where there is an immigrant population, or where the literacy and educational background of families tends to be limited. In its thoughtful report, *Unfamiliar Partners, Asian Parents and U.S. Public Schools*, the National Coalition of Advocates for Students reminds the reader that "The task of building mutual respect for differing cultures and life experiences *must include both parents and educators.*" (Emphasis added.) (Bouy Te et al., 98).

It is not only immigrant populations who may perceive the school as an alien environment. The diversity that characterizes most of our urban schools, and is increasing in smaller communities as well, challenges educators to find ways to communicate respect for different values and customs, and at the same time to build a community that includes families within the classroom and the school. Teachers will need to learn more about the families of their students, and to understand their values and customs. Often the school staff live at a distance from the school, and have no connection to the surrounding neighborhood other than the children in the classroom.

Lack of trust. The first task, then, not only for the school but for the family as well, is to build trust. This may be especially difficult for some Southeast Asian immigrants, who in addition to the cultural differences most immigrants experience, may have negative impressions of United States involvement in their land of origin. Trust is further diluted because "schools in the United States are structured differently than schools in their homeland, and hold different expectations for students and their parents." (Bouy Te et al., 3) When, as is the case in many urban schools, there are as many as 20 linguistic backgrounds represented in the school population (one Washington, D.C. suburb had more than 70 in a recent graduating class) the school needs to exercise problems in communication Joan Dykstra, president of the National PTA, and Arnold Fege of that body's national staff, suggest that changing conditions call for new strategies:

> *Any successful parental-involvement thrust will require a more direct engagement between the school and the home, one that takes into consideration the values of the family and of the community. Policy administrators tend to talk in a vernacular foreign to most parents that seems condescending and irrelevant—curricular alignment, performance assessment, restructuring, portfolios, and mapping, to name just a few examples. Parents, meanwhile, want to engage the big-picture concerns (Dykstra and Fege, 60).*

An unwelcoming climate. There are numerous reasons for the unease many parents feel on entering a school. The middle school, especially, may evoke the negative feelings and

insecurity that he or she experienced as a junior high school student. Officialdom, in whatever setting, also intimidates many adults. Those who work in schools need to become aware of the ways in which they can alienate or engage the loyalty of parents. One parent activist, a mother of Puerto Rican origin, says she became involved when, worried about her daughter, she attended an informational meeting for families of students entering high school. That first step led to volunteering in the schools, and to participation and ultimately a leadership role, in a child advocacy organization in the community. She is now raising a grandchild. She reports that when her sister enters the school office, it may be ten minutes or more before anyone takes note of her presence, but "When I walk in, they say 'Good morning, Marta, how can we help you?' because they know me, and they know I care."

Schools that serve inner city families, even more than those in the suburbs, need to become conscious of the behaviors that may prevent parents from forging bonds to the school. Like the teacher who fails to recognize "the teachable moment," school personnel need to be attentive to the impression they may make unwittingly. The failure to greet the parent who enters the office tentatively, and waits to be acknowledged, scheduling meetings or conferences at the convenience of school staff, and without regard for parents' work hours or other responsibilities, conveys to parents a message that "We can manage nicely without you."

Suburban schools are not entirely free of such problems, but suburban parents ordinarily have some skills that enable them to negotiate the system, and a conviction that they are entitled to have their opinions heard, and their child's needs met. Although some research suggests a low correlation between SES and family involvement in the schools, practitioners and staff of intermediary organizations and agencies interviewed took a different view. The contrast between schools whose communities are largely lower SES and those with middle or higher income families, between neighborhoods with a preponderance of poor immigrant or minority families and those with higher income levels or parents with strong educational backgrounds, is, they suggested, often reflected in the quantity and quality of family involvement. Middle and upper-middle SES parents have skills and knowledge to "negotiate the system," to gain access to services and those in authority. Poor, immigrant, minority and other marginal groups are unlikely to have the sense of entitlement that characterizes more secure groups, and in addition frequently lack the skills or knowledge they need to be advocates for their own child.

In city and suburb alike, family and school too often assume adversarial positions. When this is the case, it usually signifies a failure in communication. When there is a will to remedy this, solutions will be found. Sometimes an outside agency can mediate more successfully than those who are closely involved. The Family Ties Project, a program of the San Francisco School Volunteers, states "The biggest challenge facing the Family Ties

project is improving communication between parents and teachers, who often view each other negatively and have trouble finding common ground. [Family Ties addressed this problem by] providing opportunities for parents and teachers to collaborate on common goals. ESL and bilingual teachers were a critical resource to broadening parent involvement (Family Ties(a) 2)."

The Edna McConnell Clark Foundation has made family involvement a priority in its work with inner city middle schools for close to a decade. Their sponsorship has ranged from establishing parent resource rooms in some schools to resolving tensions between a suburban principal and parents of children bussed from the inner city, to funding the training and hiring of "parent coordinators," (community members whose responsibility is to increase parent involvement. The overall pattern in these efforts, according to a Clark spokesperson, appears to be "initial skepticism and resistance on the part of the school," followed by a major effort (by the Foundation's surrogates) to "win the school over and demonstrate that parents can make a real contribution." Even with the care and respect for boundaries implicit in these approaches, only "in some cases" does the school ultimately become enthusiastic.

Happily, the antagonism between parents and teachers is far from universal. But while some programs are succeeding in reducing their hostility, one representative of an institute devoted to research and advocacy on behalf of children and families states that that organization's experience has been that "teachers resist parent input and involvement."[2] More commonly, it is the *perception* on both sides, rather than the *reality*, that must be addressed. Epstein and others have found that, "with parents perceiving the school as unwelcoming, and the school characterizing parents as uninterested, . . . understandings, and new behaviors, are needed if a constructive relationship is to be initiated or sustained in the middle school years."

Logistics. In addition to lack of time—a problem for families as well as for schools—other practical considerations constitute barriers to involvement. A lack of transportation is repeatedly cited as a problem not only in cities, but in rural areas, where distances are great. The dissonance between school schedules and parents' schedules, discussed earlier, creates another obstacle. In some school systems, this problem is aggravated by union contracts that specify the hours and time of day that teachers may be required to serve. The problems in communicating caused by language and interpretation are exacerbated by practicalities—families without telephones, difficulties in keeping addresses updated, the expense in time and money of multiple mailings, and the capricious fate of written communications stuffed into a seventh grade backpack at the end of the day.

[2] While this is an authentic quote, the source, for obvious reasons, is not identified.

The Community as Partner

Effective partnerships include the community as support for families, as another setting for teaching and learning, and as a resource to the school. In recent years, the "full-service school" (vide Dryfoos) has received attention as a strategy to counteract the fragmentation of services, especially social services and health, but also including after-school programs, recreation, and adult education. This approach appears to provide better coverage: fewer families, we are told, "slip through the cracks," and the school becomes a center for building community.

The business and professional community, as well as the non-profit and public sectors, may enter the partnership with contributions of materials, incentives for achievement, allowing time for employees to attend events at a child's school, or to serve as mentors or tutors. In the middle school, where choices are made that will influence the student's future in the world of work, the business community can make information available, host visits to the work site, and participate in "career days." "Outsiders" can describe their work and demonstrate to students the connection between classroom learning and the world of work, answering without the need to preach the perennial question "Why do I need to learn this when I'll never use it again?"

A growing anxiety about self-destructive or anti-social behaviors, which often surface in early adolescence, has combined with a renewed interest in civic education and the civil society, and concern over transmitting the "core democratic values," giving rise to a variety of programs targeted at the middle grades. The passage of the National and Community Service Act, and subsequent funding of the Corporation for National Service, gave impetus to a new interest in service learning as a way to address these concerns, and to add a dimension to the curriculum. Middle school educators, parents, and community agency staff attest to the benefits of connecting school and community through service learning. Students acquire new skills, an understanding of community services and the relationships of government, the non-profit world, and the society at large, and enjoy a growing sense of efficacy. Service learning invites another kind of involvement, when families and other community members work side by side with their students in serving their own community under the auspices of the schools. Challenger Middle School, in Colorado, found that fathers took a new interest in the school when they and their students worked together at home repairs in a neighborhood of senior citizens.

▶ Conclusion

There are many examples of well-developed family/school partnerships in every area of the country. There is broad policy support for these collaborations. Requests for proposals increasingly require evidence of collaboration or partnership from school districts or individual schools. States are mandating parent involvement (though more often than not with the implicit assumption that it can be achieved at little or no expense

of time or funds). Nevertheless, effective, sustained partnerships appear to be the exception rather than the rule. There is a gap between what the literature and practitioners tell us: There are not real quarrels about what *should* be, but their views of what indeed *exists* are often far apart. Both groups acknowledge some of the barriers to involvement, although they may weight them quite differently. There is still much to learn about the conditions and structures that encourage successful partnerships. A little like the classic museum visitor who "doesn't know much about art, but knows what he likes," many people recognize successful partnerships, but even the partners themselves may have considerable difficulty in listing the essential components. There are unanswered questions, untried answers, and probably unimagined solutions.

Assuming that the prevailing view of family/school/community partnership as a powerful tool in improving the middle school experience is correct, what can we learn about the critical components of successful partnerships? What activities, studies, or initiatives should be undertaken to enable more students, families, and schools to create and sustain successful programs?

To find answers to these questions, I interviewed a number of people who have been deeply involved in these matters over the years. They come from both the world of research and that of practice. Their comments not only provided a context for looking at "the big picture," but addressed the particular as well. (They are acknowledged on a separate page, but I would like here to thank them for the careful thought they gave to these questions, and their willingness to add to my own understanding of the complexities in this area.) A composite of their comments, as well as some conclusions, follows.

The role of research, both in systemic school change and specifically in establishing home/school connections, was a recurrent motif in my conversations. We need to learn more about the impact of independent sources of information and interventions on parent involvement. What can be learned from existing research on programs where parent involvement is one component of a comprehensive reform or restructuring initiative (e.g., the Comer School Development Program.)? Research exists, as several interviewees pointed out, that identifies at least some of the actions or mechanisms that are critically important to successful parent/school relationships. Why have most districts failed to initiate them? (Don Davies suggests that perhaps one out of ten elementary schools have used this information, but that at the middle and high school level the ratio shrinks to about 1:30.) Generalizing from this point, we need to ask what conditions prevent schools from meeting the needs that research of the last 20 years has identified. What rewards or incentives are needed? Is it possible to identify the factors that encouraged the relatively small number of schools that have succeeded in using those research findings? In a similar vein, it is safe to assume that other schools tried but failed. What can be learned from their experience?

There is still a need to clarify the purposes of parent/school involvement. A word of caution: Some of these purposes will be site-specific, and it will be counter-productive to assume that findings or initiatives, to be useful, must be universally applicable. In identifying the success indicators in parent involvement, Byron King of O'Farrell Community School, cautions that we need to think carefully about what success means, and how to measure it. In dealing with families from other cultures, it may be necessary to devise different measures.

Other questions which may have been dealt with in other settings now need answers that take into account the unique population and mission of the middle school. For example, we know that the middle school is often the place where the high school dropout rate has its roots; is there a difference in that rate when there is effective parent involvement in the middle school? Another area that has been studied with regard to special populations (e.g. early childhood programs, special needs students, Title I schools) is the impact of federal requirements for parent involvement: we need to learn whether and in what ways such requirements affect the middle school.

These questions suggest one common denominator: How have successful programs not only brought parents to the school, but engendered public support for initiatives that create real partnerships? And what conditions have enabled some programs to sustain themselves over time, while others—apparently similar—disappeared or became hollow? One advocate speculated that there is a critical mass—a proportion of parents (he speculated that it might be one third) that must be committed if they are to constitute an audible voice in a collaboration.

Finally, the question of training has been skirted up to this point. While we have discussed the damage done by teachers who are unresponsive, and the tacit antagonism that can defeat even the best-planned effort, little attention has been given to how teachers and parents are prepared for these new partnerships. We know that few pre-service programs offer courses that prepare students to deal successfully with parents; even in-service training tends to focus on the parent-teacher conference, or even "surviving the PTA." Nor should the responsibility rest solely with school personnel. We speak of seeing that children are "ready to learn" when they enter school; perhaps we need a new vocabulary to describe the need for families and educators to be "ready to listen/ready to respond." Observers of the family in society have commented on the fact that while we train the operators of copying machines, and administer a test before permitting anyone to drive a car, parents are generally left to discover for themselves the skills of one of the most important callings, raising a child. Involvement in the school demands of the parent still another set of skills. Family/school partnerships offer an opportunity for parents and school personnel to learn from each other, not only to work together, but to enhance the middle school experience—first of all for the students, but

also for themselves. There is still much to discover about altering the relationship to create true and lasting partnerships.

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